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THE FARMER AND PLANTER



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TO DELINQUENTS.

There is a large amount due by former subscribers to the *Farmer and Planter*, and we have sent bills to every one so in arrears. But few have responded, except such as discover errors. There is scarcely a Post Office in the State but we find some persons living near it who owe us for from one to nine years' subscription. We are much in want of the money, and we most earnestly appeal to all in arrears to forward the amounts immediately. Will the Post Masters aid us in collecting the amounts? We have received numerous kindnesses from these gentlemen, which are highly appreciated, and we would ask them now to confer a more important favor than any before. As we have stated, where it is at all possible to correct errors, we shall be pleased to do so, but we must be informed of them before we can correct them.

It is an unaccountable fact that three-fourths of the debts due us are by many of the richest men in the State; and although we have dunned them twice, they pay no attention to our wants. The patronage of such men would ruin the best enterprises of the country. By a calculation we have made, and intend publishing in the *Carolinian* in a few days, we can show that such credit is a clear loss to the publisher of from 12 to 28 per cent.



VOL. X.

JULY, 1859.

NO. 7

R. M. STOKES, }
PROPRIETOR }

COLUMBIA, S. C.

{ NEW SERIES
{ VOL. I, No. 7.

DORN'S GOLD MINE.

BY OSCAR M. LIEBER, STATE GEOLOGIST OF SOUTH
CAROLINA.

So much interest is naturally felt in this, the most productive of our gold mines, that I desire to communicate a description at an earlier day than the publication of an Annual Report would permit.

Dorn's Mine is situated in Abbeville District, close to the Edgefield line, and about six miles from the Savannah River.

The Mine belongs to the class, whose gold is found in what I have elsewhere designated as the *hornstone lenticular type* of gold veins. This name was intended to convey a brief description of the veins of this class then known to me; and, although the term would not be strictly applicable to this individual case, it will be best to adhere to it, since these veins very evidently appertain to the same division; and for purposes of study and delineation some distinctive appellation is positively needed.—The plan of describing different mineral occurrences, as entirely separate and individualized, which has hitherto prevailed to such an unfortunate extent in our country, would permanently prevent deductions of importance, scientifically or technically.—When the general similarities are thus pointed out, by classification, the individual dissimilarities may be studied with far greater ease, and the results will be productive of greater benefits, in a technical point of view.

No gold veins, at all resembling those of this peculiar type, have ever been discovered in any other auriferous region but our own. They are, as far as known, entirely confined to Virginia, (?) North Carolina, South Carolina, and Georgia. Still, their ap-

parent absence in other gold regions may not, in reality, be any evidence that they do not exist, for no geologist and no practical miner, accustomed only to seek for metals in clearly marked quartzose or spathose veins, would ever dream of looking for the precious metal at the spots where these veins crop out. No doubt, they will, some day, be found elsewhere also.

A brief description of the hornstone lenticular type will render a detailed account of the Dorn Mine more intelligible.

In all cases, whether above or below the nether level of the oxidizing effects, it is extremely difficult to distinguish between the veinstone and the slate, the ore and the attle. The chief distinguishing feature between the two is, that the veinstone is more siliceous. In the oxidized portions, or where disintegration has taken place, we find the former of an arenaceous, friable, and even pulverulent character. Lower down it becomes more compact, and passes into a very tough, dark, talcose hornstone, (as at the Huey Mine, in North Carolina), or into a coarse, watery quartz, semi-translucent, but not crystalline—as at the Dorn Mine. At the Brewer Mine, in Chesterfield District, South Carolina, although the undecomposed level has not yet been reached, the enormous veins sometimes show in their centre an unaltered reniform mass of bluish hornstone. The slate binding the veins, is more talcose than the veins themselves; and rarely has the gritty feeling of the latter when taken between the fingers or the teeth. At different mines of this class, different peculiarities are observed, for the purpose of separating the ore from the slate. But it would carry us too far at present to enter upon all of these. Nor is the longest practice always

sufficient to determine, in every single case; so that even the most experienced person, accustomed to these veins especially, is often obliged to have recourse to his pan in making the necessary separation.

The hornstone lenticular type of gold veins is altogether confined to the talcose slate. Especially do these veins abound near the junction of this and the argillaceous schists. Nor is the immediate country slate always distinctly marked in its talcose characteristics. Not only is the passage between these two slates very gradual, indeed, often imperceptible, but the slate immediately adjoining the veins is always highly charged with silica; so much so, that in many cases it might, with perfect propriety, be termed a quartzitic schist (*Kieselchiefer* of German geologists). Until depths, below decomposing effects, are reached, it is very friable, and crumbles between the fingers to an almost impalpable powder; contact with the teeth being often required to detect the presence of finely divided quartz. In such cases it is difficult to distinguish between it and the ore. Farther down it sometimes (at the Huey Mine) assumes somewhat of the hornstone nature of the gangue. In other instances (at the Gold Hill Mine, in North Carolina), there is no distinction to be made between the auriferous and barren slates. Both are alike, of a talco-chloritic nature.

This correspondence between slate and veins, or the partial obliteration of the latter, is, no doubt, due to the solution of the veins during the metamorphism of the slates, as Breithaupt has shown it to be the case elsewhere. The segregative origin of these veins may be another cause of similarity, in composition, to the slate. That they were really produced by deparietal secretions is shown by their restriction to the talcose slate.

Thus far, I have ventured to present some facts, which were mostly offered in my third Official Report, but without a hasty glance at which the sequel would probably be unintelligible. For a more particular discussion of the points in question, I therefore beg to refer to that publication.

On the hill of the older workings of the Dorn Mine, we find two veins. The one, which, up to 1854, yielded about \$500,000, having only been broached in 1851, strikes N 78° E, dipping 75° N. This vein is south of the one which is now chiefly worked. I believe it is a very safe assertion to remark, that probably no gold vein, ever discovered in any part of the world, has yielded the precious metal in equal quantity, in proportion to the bulk of the ore removed. One bushel of the ore from a

single blast, was tried by Mr. Dorn, for the purpose of ascertaining the average production of the richest part of the lode, and was found to contain no less than the astonishing amount of eleven hundred dollars. It is proper to state here that a bushel of this softer ore would weigh from one hundred to one hundred and twenty-five pounds. This exceedingly rich ore was of a very dark brown colour; but we shall revert more fully to the varieties of ore hereafter.

A single small horse-mill (Chillian) was employed in working the main portion of this vein, and yet I am told that during the most productive period, the weekly yield amounted to about ten thousand dollars.

These richer "pockets," as they are termed, are really *lodes* or *courses of ore* in the vein. They incline towards the West sometimes, at an angle of less than 45°. Only in one of the shafts at the Eastern extremity of the mine, on an expired lease of a Northern company—hence called the New York Mine—does a vertical pocket occur. This phenomenon, in metalliferous veins, has never yet been satisfactorily explained.

Immediately east of the rich pocket in this vein a fault occurs. As all the faults in these veins throw the continuation of the vein in a southerly direction, when proceeding towards the east, an exploring cross-cut was driven south for a few feet.—The vein was not recovered, but I am of opinion that this was owing to a want of perseverance in the same direction, and have, consequently, strongly urged the further prosecution of this cross-cut.—This plan will probably be adopted; and, in that case, no doubt, the future will reveal still further golden harvests, like those already reaped.

About thirty feet North of the vein just described, is another, striking N 68° E, and dipping, on an average, about twenty-five feet in one hundred, in a northerly direction. This vein has been opened for about two hundred yards, by various shafts, one of which is a hundred and thirty feet deep. In the different galleries which connect the shafts, the character of this vein may be studied to perfection, both as regards form and composition, and—thanks to the kind assistance and information afforded me by W. B. Dorn, Esq., the proprietor, by Capt. Jas. Dorn, and Mr. P. J. Caswell, the superintendents of the mine, and by Dr. Beall, who was formerly connected with these works—the natural facilities have been so largely augmented that I must confess never before to have made a survey of any mine, the results of which were as satisfactory to myself. The comparatively recent discovery of this mine,

and the consequent freshness of all the details, in the memories of those concerned, has assisted this very much; and hence it is, that many features of this entire class of veins, which it had formerly been impossible for me to determine, with positive certainty, or which were obscured by want of correct definition, and even of observation in the miners, were here at once rendered perfectly clear and intelligible.

It will be advisable to examine into the general form of this interesting vein, before we enquire into its internal structure and composition.

The vein, as already remarked, strikes N 68° E, and dips northwards, but we observe very conspicuous irregularities in both strike and dip. In several places the dip becomes more horizontal than it is near the surface. Indeed, all these veins are more vertical above than below. In addition to this, we sometimes meet with slides, where the vein is entirely cut off, re-appearing again a few feet farther North. The terminations of the upper and lower part, in such cases always overlap one another for several feet, and, as the diameter of the dead slate between the two is rarely more than a couple of feet, we see several places in the workings where the opening is ten or twelve feet in diameter, although the vein itself rarely exceeds five or six feet. Such overlapping frequently gives the temporary appearance of two veins, where, in reality, but one exists. This, of course, only lasts until the termination of the upper portion of the ruptured vein has been reached. There is one instance, however, where really two veins appear to occur, or where, at least, a regular *horse** exists. This is at the bottom of the deepest openings, and the future must decide the exact nature of the case. The vein, which above proved to be the main vein, is accompanied on the North by another vein, which has been taken out in part. This companion vein, unites with the other to the West, but yet seems to promise becoming the chief vein. It may, therefore be, that this is, after all, only another instance of the overlapping already referred to, although accompanied by a somewhat increased irregularity.

The phenomenon of the overlapping of the dismembered portions of the vein is not merely confined to the one direction; it is met with quite as often horizontally as vertically. A beautiful instance of the former is seen at the west end of the workings, where the two terminations of the vein overlap for about forty feet, the distance between them varying from six to ten feet.

* A *horse*, in mining language, means a body of slate enveloped by two separate forks of the vein, the *riders*.

In these horizontal ruptures of the veins of this mine, the continuation of the vein lies south of the termination of the other part, when we proceed east, in the same manner as the lower portion should be sought on the north side in a vertical shift; still, although the veins have been broken up as described, the entire formation exhibits faults in the very opposite direction, the faces of the slides being directed towards the north-east, when our face is turned eastward on the vein. Such is the fault, for instance, which occurs between the Dorn and the New York Mine.

At the final termination of each of these ends of the veins, whether the dismemberment be in the direction of the strike or of the dip, it is common to meet with little streaks of ore, sometimes quite rich, extending onwards in the same course.

With the exception of the irregularities just referred to, the veins and country correspond in strike and dip.

The vein we are now examining, and which is usually known as the Long Vein, is in part accompanied, in part traversed, by several dykes, which consist of a somewhat impure, but yet clearly marked serpentine, which, in the upper oxidized parts of the mine, has been altered to a bright red, saponaceous clay, forming what are technically known as "mud dykes." Like all dykes, these also tend to enrich the vein at the point of contact, but they show no appearance whatever of having been the source of the precious metal. Their influence has probably only been exerted in the way of accumulating the gold already present in the slate and vein.* Yet we find their selvages coated with a thin quartzose or sandy seam, of sharp grit, in which gold is sometimes met with, in flat dendritic particles; and gold has also been found in the substance of the dykes, especially where oxidation and consequent decomposition facilitates its extraction. But even this is no evidence whatever that the gold is derived from the injected rock; for the dykes always traverse the veins where they intersect, showing the veins to be the oldest of the two, and—although a subsequent transfusion of the metal might be compatible with this fact—it would then render it necessary that such later introduction of the gold should have been effected in accordance with the position and proximity of the injected rock.—Throughout its entire extent the transfusion of gold would necessarily be observable in the country traversed, and would be in proportion to the relative vicinity of the dyke. As it is, however, the

* For farther investigations on this interesting subject, see Report III (supplement,) on the Survey of South Carolina.

auriferous repositories continue on in their proper course, being only rendered more productive in gold near the dykes. This local agglomeration may be the result of electrical effects. The presence of gold in the body of the dyke may either be owing to a more recent transfusion, or may result from a solution of auriferous beds, traversed by the mass in deeper regions, during the period of its fluidity.

But it is now high time to devote some remarks to the internal structure of the veins and the character of the ores.

At first sight, it is very difficult to decide whether these bodies are true veins, i. e., crevices subsequently filled by the materials now present. A study of this separate occurrence might induce the belief that we have only to deal with a more than commonly siliceous bed of the talcose slate. From the analogy of this occurrence, however, with other strongly marked deparietal veins, I deem it safe to consider these as identical with them, and they certainly show more similarity to ordinary veins than the *Adelsvorschub* of Austrian miners, which, as already observed, Breithaupt has, nevertheless, ascribed to the former presence of true veins, subsequently obliterated by the dissolving effects of the metamorphism of the country slate. The auriferous portions greatly resemble the adjoining slate, in lamination and jointure, and it is owing to this, that our practical miners classify them as "slate veins."

In the upper parts of these veins we meet with a greater variety of ores than are to be seen below the level of decomposition. Nevertheless, these varieties differ from one another less than is the case at the junction of the decomposed and undecomposed portions. Above we thus find ores of every shade of colouring, by peroxide of iron, from a faint yellow to a brownish black. The lighter kinds are highly siliceous and laminated, the darker ones gradually become firmer—that is to say, they lose their friability, and assume a porous but more durable character. Yet, wherever they become absolutely solid, and are entirely black, but little gold can be detected. In such cases manganese is present; and, although a small quantity of gold is reported to have been ground out of some of the solid pyrolusite, which occurs on the same property, in an enormous bed, sixty to one hundred feet in diameter, I am inclined to believe that this was gold which the hard manganesian ore removed from the wheels of the mill, and that the presence of manganese is as objectionable with gold as it is with our copper veins.*

* With us, *manganese* appears as injurious in copper veins as *mica* or *chlorite*.

On breaking open some of the little dark seams in the upper portions of the veins, I found that the surface glistened like newly fractured steel or iron. Examined under a little Stanhope glass, this glistening proved to result from the surfaces of broken stalactitic columns of peroxide of manganese, which had formed in the little fissure and thus united the walls. On exposure such surfaces become beautifully iridescent.

Little cavities are frequently met with in the brown ore, generally filled with a loose cellular structure of ferruginous sand, readily crumbling down, when struck by the pick. These gradually taper off before reaching a shift of the vein, and thus form very safe guides. Such little cavities usually contain the best ore, and the gold sometimes lies loose in them. No doubt, therefore, they really accumulate loose pieces of the metal; but, in great part, their increased richness is, unquestionably, owing to the fact that they more especially abounded in the auriferous pyrites, the removal of whose sulphur occasioned the vacant spaces. A large proportion of the iron, in the form of proto-sulphate, was also washed out, thus increasing the space.

When we descend to the lower level of oxidizing influences, which is considerably below the present water-level, and does not fairly present itself above a depth of 78 feet, we meet with different ores of copper. A red oxide, largely mixed with talc is generally struck first, but soon gives place to covellite. The latter occurs in great purity, although sometimes embracing embedded cubes of iron pyrites, thoroughly coinciding with some of the ores of Ducktown, in Tennessee. The body of almost pure covellite rarely exceeds four inches in diameter, and shows itself very near the centre of the vein, but on the hanging wall of the works. This mineral is very evidently of a secondary formation. Indeed, the process of its production does not appear to have ceased even now; and the entire mass is always very soft. No doubt this rich copper is the product of the leachings of all the vein and slate above it, and here it would seem that we may discover an explanation of the *original* formation of the porphyroid mixture of iron and copperites at Ducktown, the later or *second* concentration of which has produced the black copper ore (black oxide, sulphate, &c., mixed,) which has rendered that locality so famous. All the slates of the Western Alleghanies abound in sporadic copper pyrites.

These copper ores contain gold in very considerable quantity, but I have no idea that they will ever be worth working, as copper ores, for it is only owing

to local concentration that the copper appears in such quantity. If we persevere deeper into the unaltered rock we discover traces only of this metal, in the shape of isolated, usually microscopic, particles of yellow sulphuret.

We have seen that, at some previous period, the permanent water-level was lower than it is now, and this change may have enabled the sulphuret of copper to accumulate above the former boundary of oxidation, and may also thus have preserved it from continued change.

At the former water-level we find the vein occupied by a mass of watery quartz, lamellar in the direction of the strike, and frequently interstratified by thin talcose matter. When the quartzose laminae are thickened they are rarely mixed with foreign matter, other than pyrites and native gold.—Visible particles of gold are, however, pretty much confined to the faces of joints, and to the porous portions. The gangue here strongly resembles some itacolumitic beds, although there is a great *geological* difference, the one being a sandstone, the other a quartzite, having no real connection with sand. The arenaceous accumulations, sometimes met with, are merely minute angular fragments of recent comminution.

In addition to scattered particles of copper pyrites, and of cubes of iron pyrites, and probably also magnetic iron pyrites,* minute crystals of enargite appear to occur, as at the Brewer Mine; but, if so, they are too small in size, and too rare, to identify satisfactorily.

The mode of distribution of the gold at the Dorn Mine is very interesting, and much may be learnt from it.

We have already noticed that it is met with, in the largest particles, wherever some open space has facilitated its agglomeration. In addition to this, it has been noticed as a regular feature, that below each narrowing in the vein, the ore is always richest. May not this be a result of an upward tendency of the gold, which I have already believed to exist with other pyritous gold veins of the South?† Another singular fact is, that the gold of the undecomposed portion of the veins is uniformly less pure than the gold of the decomposed parts, giving, on an average, seven cents less of that metal. The upper gold is very yellow, and the lower very white, the inferiority in value being a result of additional silver. So regularly is this the case, that if we find two parts of the vein adjoining one another, the one

oxidized, the other unchanged, we may, even then, discern the usual difference in the gold.

By way of furnishing the per-centage of pure gold in the gold of the Dorn Mine, I shall present the result of one of the largest productions of one month, taken from a Dahlonega mint certificate, dated August 28th, 1852:

<i>Fineness of Gold.</i>	<i>Value.</i>
953	\$2,740 30
953	2,233 62
952	1,543 87
955	2,047 79
956	1,977 92
955	2,549 34
956	2,458 03
953	2,799 01
953	2,247 40
953	3,837 21
Total	\$24,434 49

This averages 98.6 cents per pennyweight.

The gold from one of the veins on the New York lease, however, yielded only 66.66 cents per pennyweight, the rest being silver. This must have been very similar to the gold of the brother Belk's deposit, in Lancaster District.

In addition to the two veins already mentioned, as occurring at the Dorn Mine, another vein has lately been struck near one of the shafts. As yet it has yielded no good ore, but an improvement may take place. The same veins continue at the New York Mine, after a northerly fault of about a hundred and fifty yards, and have been opened with success, the aggregate yield having been, approximately, \$200,000. The production of this and the Dorn Mine together, has been near \$900,000, although only within the last six years have engines been employed. At first all was done with a little horse mill. The expenses have been altogether very slight, for operations of such magnitude, and as the ore is always comparatively easily crushed; poor ores, which, at many mines could not be worked, are here turned to good account, and little more than the removed portions of the dykes are *stilled* underground. In consequence of this the mine is unusually open, and the features may be studied to advantage.

In the extraction of the gold, stamps are used, four of which work in one mortar. As the heads never rise above the water, all splashing is avoided. The crushed ore then passes into the mill, where it is still farther comminuted by two revolving circular stones, mercury being placed in the trough, for the collection of the gold. After this the mud and sand, with the finest particles of gold, pass through a fine sieve into a Bussing's amalgamator, which

* The needle is strongly affected in the mine.

† See Report S. C. III., and "Der Itacolumit U. S. W."

works to perfection. It consists of a circular pan with concentric partitions, in which the mercury rests, and a similarly shaped but inverted, revolving upper part, the partitions of which alternate with those below, and thus constantly agitate the quicksilver. It has been noticed that the gold collected by this apparatus, after having been burnt off, is exceedingly coarse in grain, and resembles the coarsest gold which the mine produces, yet only the finest levigated gold can enter, and such gold, under ordinary circumstances, would give a soft, mushy amalgam, and would be perfectly homogeneous and fine grained, when burnt, so that it would appear that some electrical effect, produced by friction, in this instance, consolidates the fine into coarse gold.

As long as desulphurized ores were worked alone, not a particle of lost gold was to be found in the *sludge*, which runs off from this amalgamator; but latterly, the pyritous ores flower the mercury and carry off gold. Perhaps, as there is such an abundance of manganese on the property, it may, in future, be found advantageous to dissolve out the gold as a chloride, by Dr. Percy's process. The high price of quicksilver and its loss, apart from the value of the gold saved, would be likely to render the change in the process of extraction a profitable one.

As the lease of the Northern Company has now expired Mr. Dorn has commenced to work the New York Mine in conjunction with that which bears his name. Farther south, on the same property, occurs another "gold-lead," or series of similar veins, known as the Glauzier Mine, which has barely been tried. The promise is, however, favourable, and it will probably, before long, be farther examined into by exploring shafts. If, in addition, we remember the extraordinary manganesian bed, we must admit that few such mining regions occur; and yet all of this might be included in less than one square mile.—The gold veins now worked at the two chief mines may be traced for nearly one mile.

Camp Geol. Surv. of S. C.

Dorn's Mine, May 10, 1859.

TURNIPS FOR SWINE.—A writer in the *N. E. Farmer*, thinks the value of roots for these and other animals, considerably over-rated. He wintered last year, ten swine, sold half his turnips and bought corn, and fed part on cooked turnips, and part on corn meal. The latter fattened well, the former *lived*, and this Fall, after being fed on corn, are no larger than the others were last Spring. He would only raise them for feeding once or twice a week to stock; as a steady food for cows they produce inferior milk. Beets are the best roots for cattle and swine. Will some of our readers, who have experience in wintering swine on roots, give us their views on the subject?

From the Ohio Cultivator.

BLOODY MURRAIN IN CATTLE.

The return of the grazing season is sure to bring us reports of the fatal effects of the disease known as Bloody Murrain, and inquiries as to cause and remedy. This disease is most common and fatal in wet and woody regions, and though we believe it is not in any sense epidemic, yet, like the mysterious cholera, the cause and cure seem to be involved in a veil of uncertainty, so far as present science is able to reveal. As to cause, we know of nothing more likely to be true than the predilections set forth by Mr. Klippart, in the Ohio Agricultural Report of 1856, p. 375:

The investigations thus far being made strictly with reference to ascertain the cause of bloody murrain, have elicited the following facts:

First. It principally appears in marshy or woody districts.

Second. It is not caused by cattle eating poisonous plants.

Third. It is caused by an animal, bearing a tolerable resemblance to a leech in shape, and which is the exact color of the liver.

Examinations made in accordance with the indications of the above-results, have led to the belief that the animal found in the hepatic ducts, gall bladder and liver of cattle, is a parasite of the fresh-water snail, (*Lymnaea*.) This parasite is known to naturalists as the *Fasciola Hepatica* of Linnæus, or *Distoma Hepaticum* of modern naturalists. It belongs to the division of Radiata, and to the *Trematodea* family, of the order *Parenchyma*, of the class Entozoa.

The fresh water snail abounds in marshes, swamps, pools, or ditches of stagnant water by the wayside, or in open drains; and wherever they are found, there also is as infallibly found its accompaniment, the parasite *Distoma Hepaticum*, as fleas accompany dogs, ticks where there are sheep, or lice on the caputs of filthy children. The changes through which this *Distoma* passes, are, perhaps, not fully understood, but enough is known to leave no doubt of its identity as found in the ox, and in the *Lymnaea*. Where the *Lymnaea* abounds in ponds and marshes, the ova, as well as the more developed forms of the *Distoma* are sure also to abound, ready to be drunk up by any animal that may seek to slake its thirst in such foul waters. From the stomach these Entozoa find their way up the biliary ducts into the substance of the liver, and destroy the animal by perforating the peritoneal coat of the liver, and inducing extensive inflammation.

When an animal dies from Bloody Murrain, as a general thing, it dies for the same cause as if its throat had been cut; that is, it bleeds to death, because, in burrowing in the liver, the *Distoma* not unfrequently severs some of the blood vessels; but, when this is not the case, then the liver is so destroyed as not to be capable of performing its function, and the animal dies.

As to the cure, different people think they have succeeded in various ways. In the *Ohio Cultivator* of May 15, 1857, a writer from Wood Co., O., says:

One evening last week, my cow came home sick with the Bloody Murrain, but not so bad but what she would lick salt, although she refused corn and

oats. I pulverized about a tablespoonful of roll brimstone, and gave it to her in some bran slop well salted, and repeated the dose four times morning and evening, by which time she was completely cured.

We have lost a great many cattle with Bloody Murrain, and this cow is the first one I ever saw cured. When we find them as sick as she was, they generally die in about twenty-four or thirty-six hours, in spite of all that can be done.

To this an Illinois writer rejoins in the *Ohio Cultivator* of June 15th:

In the West, we take two-thirds of a teacupful of copperas, pulverize it fine, put it into a junk bottle, fill the bottle with lukewarm water, shake well, and drench the animal. I have never known the above to fail.

A. V. Cook, of Monroe Co., Mich., furnishes the following remedy:

Take one and a half tablespoonful of burnt alum, pulverized, two spoonsful of saltpetre, pulverized; put them in one pint of yeast or one quart of sour buttermilk, put in a bottle, shake well, then turn it down the beast, and walk gently for fifteen or twenty minutes, and if the physic does not work in that time, repeat the dose.

For dry murrain, repeat the dose of yeast or buttermilk and of saltpetre, leaving out the alum.—Give as above, and repeat if necessary.

E. L. Gibbes, of Ashtabula Co., says:

Twenty dollars were paid for the following recipe to cure Murrain: Give $1\frac{1}{2}$ oz. of pearlash, dissolved in two quarts of iron-water from the blacksmith's trough; if not better in 5 hours, give half oz. more in one quart of water—the water should be warm. Give warm drink and mash, and keep dry for two days, and there is no danger. I bought the above recipe, and believe it to be infallible. I have seen it tried, and never seen it fail, as yet.

Against many diseases of farm stock, good keeping seems to be a safe preventive, but in the case of Bloody Murrain, it is no preventive at all, as we have seen the likeliest and best kept cows and steers fall the earliest victims to the disease. More than twenty years ago, when we were playing farmer in a flat and woody section of Ashtabula, this Murrain was the constant dread of the farmers, and we were in the habit of feeding clean wood ashes in salt to the cattle, once in a week or two, during the Summer season. We never suffered any from the plague in our own stock, but whether the ashes had any salutary effect, we could only guess, though in a like case we would do so again.

TO DESTROY VERMIN IN HOUSES.—Take up your carpets—down your curtains. In a pailful of water (cold,) mix well one pound of chloride of lime—(having first diluted it into a thin paste in a bowl of water, for facility of mixture.) With a mop, wet and saturate well the floor, skirtings, and any other woodwork that will not suffer injury. Then shut the doors and windows close. If there should be a suspicion of other tenants in the bedstead, take that down too. In three or four hours all will have disappeared or perished; but to insure perfect immunity from the plague, it might be well to repeat the lustration a second time—i. e., a day or two after.

From the Valley Farmer.

CUTTING AND CURING CLOVER.

Few crops suffer greater injury from mismanagement, than clover-hay. In favorable weather clover may be cut and cured and rendered as bright in color, and as palatable to any kind of stock, as the best of timothy hay; indeed, we would prefer well cured clover to timothy. It contains 1.15 per cent. of good sugar when properly handled. The per centage of sugar is greatest just when fully in blossom; but it is best to let it stand until a portion of the heads are nearly matured, as it contains less moisture, a superabundance of which delays the curing, and renders the process more uncertain. A clear sky and dry atmosphere are important in making clover hay. If the mowing be commenced in the morning, that which is first cut should be placed into small cocks of fifty or seventy-five pounds each before night, and that which is cut in the afternoon should be put up next day, as soon as the dew is off. Let it remain in this way a day or two, according to the weather; and the day it is to be hauled in, the cocks should be turned over and opened until all the external moisture is carried off.

To make bright sweet hay, the mode of stacking is important. Some means of ventilation must be employed, whether in the barn or stack. That which is recommended for saving clover seed in another part of the present number is best. If excessive fermentation is allowed to take place, a large portion of the most nutritive properties of the hay will be lost. A slight sprinkling of salt should be added to each layer of hay as it is hauled in, as it will tend to arrest fermentation and render the hay more palatable to the stock.

From the Valley Farmer.

TO DRIVE THE WEEVIL FROM MILLS AND GRANARIES.

Numerous remedies have been proposed to protect wheat and corn from the destructive ravages of the weevil (*curculio granarius*), but most of them have been impracticable, or too expensive. Tar has been found a certain and economical agent for expelling these insects. A writer in a French publication asserts, that his father had, a long time ago, his granaries and barns infested with these insects; so much so that they penetrated into all the chests, and among the linen. He placed an open cask impregnated with tar, in the barn, and then in the granaries; at the end of some hours the weevils were seen climbing along the walls by myriads, and flying in all directions from the cask. On moving the tarred vessel from place to place, the premises were, in a few days, completely cleared of these troublesome and pernicious guests. The farmer who is troubled with these insects may, as soon as he perceives their presence, impregnate the surface of some old planks with tar, and place them as required in his granaries; care must be taken to renew the tar from time to time in the course of the year, to prevent their return.

The same means may not prove equally effective with the grain moth, an ash-colored miller, called by some a weevil.

From the Working Farmer.

SMALL FARMS.

Small farms in the vicinity of large cities, with ever varying demand for products, are well calculated to be the means of developing superior modes of culture, etc. Their occupants often find themselves subjected to heavy taxes, assessments and increased rents from increased value. Habit renders them unwilling to change their vocation or location, and necessity demands increased results. All these causes tend to develop greater activity both of mind and body. Hundreds of such instances may be seen about New York; indeed, many, after being compelled to sell half their farms to pay assessments, have realized larger profits than before, with a decreased area for their operations. In looking over our own operations of the last year, we find that three-quarters of the nett profits of our farm have accrued from one-fourth of its area, and that fourth part precisely where we have thoroughly under-drained, subsoil plowed, fully fertilized, and expended the greatest amount of labor in continued manipulations of the soil. Whatever may be the size of a farm requiring improvement, we would advise any other in preference to the *gradual* system. If the occupant has not enough capital, or cannot furnish the necessary labor from other causes, let him break up no more land than he can thoroughly repair each year. If more cannot be done, at least under-drain, subsoil plow, and fully manure *one acre*, and this acre at least will be ready for the raising of *high priced crops*, while each acre in turn may be similarly improved. Suppose one acre so improved and appropriated to cabbages or other crops, capable of being sold for \$1,000, how many acres *partially* improved will this one acre represent? The next year the profits of this acre will furnish means to thoroughly and not partially improve two or more acres, and thus in time the whole farm will reach its maximum condition. Some market gardeners on Philadelphia neck, Harshmus and elsewhere, pay \$50 per acre rent, and use \$75 worth of manure on each acre per annum, and yet make money. Cannot many farmers near large cities put part of their farms to such uses, and as soon as other parts can be put in similar condition, put the first portions improved to farming crops, having made all the cost of the improvements from *former* crops current with the improvement. May not the whole farm be thus improved, and when put into full condition, who doubts that farming will be profitable?

We do not offer this as mere theory, but know it practically; we have so done on our farm, and it is open to the inspection of our readers at all times. There is no necessity for expending \$75 for manures, for this may now be done for \$15, if judiciously performed, and the whole expense of permanent improvement may be earned in the current three years while being done. Those who dislike the raising of the more valuable crops, known as truck or market crops, and who wish to confine themselves especially to standard crops, must be contented to improve fewer acres in the same time, but still they should not spread their capital and their energies so thinly over an immense area, as

to require a life-time for its realization. Land cannot be improved from an inert condition, without first raising such crops as call for much manipulations of the surface, so as to eradicate weeds and ameliorate the soil. Many may avoid market gardening if they desire, by raising carrots, beets and other crops, which they may feed to cattle with profit, fattening stock, selling milk, etc.; but this must be done on the system of *thorough* tillage, so that when the whole farm is once gone over in this way, the whole will be permanently improved for a life-time, for the raising of the staple crops. Who should be contented with two tons of hay to the acre, when his neighbor can raise three tons? Is not the profit on three tons more than double that from two? Are not all the expenses in both cases borne by the first two tons? And if one ton will not more than pay these expenses, then three tons pay double the profit of two. This is true in degree of all crops, and the thorough farmer who pursues high farming, can alone be successful for the future.

SUPER-PHOSPHATE OF LIME.—A writer in the Washington (N. C.) *Dispatch*, under date of Beaufort Co., March 4th, 1859, and which article we find copied into the N. C. *Planter*, says:

"The question then arises, shall we allow our farms to deteriorate by confining ourselves to an inadequate supply of home-made manure, or shall we make up the deficiency from a foreign source? It has long been settled that the tillage of poor land will not pay, and if we succeed at all, it must be by the expenditure of some of our means to restore the lost elements. My experiments in this way have been satisfactory, but the successful use of concentrated manures, depends upon the crop to be grown, and the condition of the soil to which it is applied. If grain crops are to be grown, I think the frequent use of guano will exhaust any soil of its potash and phosphates, because the guano does not contain a sufficient quantity of these elements to supply the requirements of the cereals, and the soil must supply the deficiency or the crop will fail. I have experimented some with guano upon grain crops, and found that its superabundance of ammonia gave a most luxuriant growth to the plant, but it did not supply the minerals equal to the demands of the grain. Hence my wheat crop grown upon guano weighed but 53 lbs., while that grown upon Mapes' phosphate of lime weighed 59 to 61 per bushel.

GRASS UNDER TREES.—By sowing nitrate of soda in small quantities in showery weather, under trees, a most beautiful verdure will be obtained. I have used it under beech trees in my ground, and the grass always looks green. Having succeeded so well on a small scale, I have now sown nitrate of soda among the long grass in the plantations, which cattle could never eat. I now find that the herbage is preferred to the other parts of the field.

RAISING OUR OWN TEA.—It is stated from Washington, that the agricultural department will have, by the autumn, China tea plants enough for sixty acres of ground. They are to be distributed among gentlemen who are willing to give their cultivation a fair trial.

From the Charleston Courier.

REPORT ON ORCHARDS AND VINEYARDS.

The committee appointed by the Aiken Vine Growing and Horticultural Association to visit and examine orchards and vineyards in the neighborhood, submit the following report:

Shortly after their appointment the committee met on three several days, and visited and examined fourteen different places, on which there are orchards and vineyards. From the owners of other places which they were unable personally to visit at the time, they procured authentic information of the number of their trees and their condition. Their examination embraces the following result, which will give some idea of the amount of fruit-culture in the vicinity of Aiken: 130 acres in grape, 40,000 peach-trees, 4,500 pears, apples, plums, &c. It must be understood that the number of peach and other trees only refers to those larger orchards, which have been planted expressly for market, and does not include the smaller orchards, which are planted for private use, of which there are some on every farm and about every lot in Aiken.

Peaches.—Of this number, (40,000 peach-trees) a large proportion are still quite young, and have furnished, as yet, nothing for market; some 20,000 of them, or more, having been set out during the last two years.

We have ascertained that, during the Summer of 1858, there were sent to market from Aiken and the vicinity, about seventy-five hundred bushels of peaches. We may thus form some estimate of the value of this crop when all our trees come into bearing.

With regard to condition, the Committee would report highly favorable; but in this culture, as in all others, they observed that care and attention were duly rewarded—those which had received most thorough cultivation of the ground and proper pruning, exhibiting a decided superiority. There is, perhaps, no kind of product which repays more for good culture, and selection of first-rate varieties, than that of the peach, on account of the enormous prices paid for early and superior fruit in the Northern markets. The principal enemy to the peach here is the borer-worm, *Ægeria exitiosa*, which enters the tree near the root, and feeds on the inner bark. Unless kept in check, they destroy an orchard in a few years. Various plans have been tried to prevent their entrance into the tree, but the only effectual mode, as known, is, to search over the trees two or three times during the year, and destroy the worms. Most of the trees planted here for market, are from the New Jersey nurseries of Hancock, Deacon, Perkins and others. They are procured on better terms than from Southern nurseries, and seem hardy and thrifty; though, for a small select orchard, when the cost would not be a consideration, we would prefer Southern raised trees. As yet, the "Early Tillotson" bears the palm of being the earliest peach for market, that we know. We would strongly recommend the raising of seedlings from these earlier varieties, with a view of obtaining a yet earlier peach.

Pears.—This fruit has not been cultivated hitherto with us, to any extent. We find a number of persons now trying the Dwarf Pear (grafted on

quince.) There are, however, some successful cultivators of the pear in the neighborhood, as our exhibitions of last Summer proved, and as your Committee also had an opportunity of verifying on their sides. The most encouraging experiment with pear culture may be seen at Mr. John D. Legare's farm. This gentleman was the first who commenced the cultivation of fruit for market on a large scale, in this neighborhood. About fifteen years ago, he set out an orchard of peaches, with some nectarines, apples and pears, these last were Dwarf pears imported from France. As pear culture here had always been considered very uncertain, very little attention was paid to them. They were neglected in the pruning and cultivation, as Mr. Legare himself has informed us, and yet they are now bearing fine crops. Last Summer they were so loaded with fruit, that a great number of props were necessary to sustain the limbs, and prevent their breaking down.

The cultivation of the Dwarf Pear is becoming very general in other quarters. The most suitable soil is said to be a clayey loam, as the quince stock, on which it grows, prefers such soil. It would, therefore, be unsuited to those situations where our grapes and peaches may grow—but in the variable soils of this region clay grounds may be found on almost every farm, adapted to this culture. We would strongly recommend a trial of pear on haw. The common haw tree of this region, *Crataegus Æstivalis*, flourishes well on light sandy soils, and would probably be well adapted for grafting upon. We have the assurance of one of the most successful pear cultivators in our Association, that he has found the pear grafted on haw to do well; and in further confirmation, one of your committee will state that he grafted two pear stocks, on seedling haws one year old, in the Winter of '58, both of which grew last Summer between five and six feet high. This is, perhaps, more than would have been done on the quince, and is highly encouraging for further trial.

Apples.—But little attention has been paid hitherto to the better varieties of this fruit. As long as we depend upon propagating the well-known Northern varieties, nothing but failure may be expected. Our Southern nurseries are now well furnished with Southern seedlings of the best quality, which are spoken of in the highest terms, as even superior to the Northern fruit. We are giving them a trial, and hope to report favorably in a year or two more.

Apricots and Plums.—Both these fruits are too uncertain and precarious for this locality. The improved varieties of plum, originating in more Northern localities, are unsuited to our climate, and do not generally come to perfection. They are inferior to our best peaches, and are more liable to the attacks of the curculio than other stem fruit.

The apricot flowers so early in the season that it rarely escapes our late frosts.

Grapes.—Your Committee take account of one hundred and thirty acres of grapes, nearly all of which they visited and examined. The grape culture has received an impetus within the last few years at the South, from the increasing conviction that our soil and climate, in the high rolling lands, above the falls of the rivers, (and more especially in

the light ridges of the sand-hill region,) are highly congenial to its growth. This conviction has in a great measure, grown out of the success which has attended the experimental efforts of two of our members—to whom we wish to award all praise. Dr. McDonald and Mr. Caredeuc, the largest vintners, and only wine-makers of this section, have extensive vineyards—the former seventy-six, the latter twenty acres—from which they have annually, for years past, made several thousand gallons, and sold it at highly remunerative prices.

Except these two vineyards, all the others are young—of one, two or three years' growth. There is a determination to extend this culture on the part of those who have commenced vineyards, and there will probably be many more acres added to the above in the course of the present year.

The Committee, in conclusion, would repeat that they were highly pleased with the result of their examination, in the healthy and flourishing state of orchards and vineyards which they visited, and in the kind hospitality and good cheer they received, on all sides, in their rides through the country.

JAMES PURVIS,
A. M. D. ROBERTSON,
H. W. RAVENEL.

THE GREATNESS OF LITTLE THINGS.—Scientific research iterates and reiterates one moral—the greatness of little things, and the importance, not only of the minute study of facts, but the study of minute facts. One can imagine the contempt with which the "practical men" of the last century listened to the news that a bitter controversy was raging between two Italian philosophers as to the reason why a frog's leg twitches under certain circumstances; and yet therein lay the bud of the electric telegraph and electro-plating, and numerous other undertakings, in which the practical man of the present day, though as averse as his ancestors to every investigation whose fruits are not immediately visible, is very happy to invest his money. The study of snow-halls, pie-crust, and squeezed-wax has led the physical philosopher to comprehend two of the greatest natural phenomena—the cleavage of rocks, and the structure of glaciers. A century ago, the collecting of fossils was regarded as an occupation of about the same dignity as the accumulation of old china. Now, the coal miner risks his capital upon the strength of the evidence they afford, and the landed proprietors of some of our eastern counties pocket many thousand pounds every year by selling the phosphatic fossils, whose nature was first pointed out to them by a country clergyman, who happened to be a man of science. And not only does the gradual widening and perfecting of our view of nature, bring with it a respect for the influence of the study of minute facts on the advancement of knowledge, and the bettering of man's estate, but it tells us that, apart from all consideration of man and his wants, minute and seemingly most insignificant agents have played a mighty part in the history of our globe.

Do not drive wedges down beside posts to straighten a fence. Dig out, and do it well.—Wedges look shabby, and are shabby.

From the Louisville Courier.

SEEDING DOWN PASTURE LANDS.

Seeding down lands for meadows is a very simple process. Pure timothy hay is generally preferred, especially for horses, and brings the highest price in market, though there are not a few who believe that orchard grass, combined with red clover, is equally nutritious, pound for pound, and will yield more per acre, while it affords not only earlier pasture in spring, but more pasture in spring and autumn both, than pure timothy. For timothy meadow, on old land, the soil must be plowed deep, thoroughly harrowed, and well manured. Sow in autumn, on wheat or rye, or on the naked fallow.—Brush in, and roll. A bushel of good seed is made, under different hands, to cover two, three, four, and even five acres. Our own individual experience with timothy has been small. We know good grass-farmers, however, who never sow less than half a bushel to the acre. We know, likewise, equally good farmers, who never make a half bushel cover less than two acres. Perhaps four acres to the bushel is an average seeding, but on land not rich, we should incline to think three acres to the bushel better. In forming orchard grass meadow, abundant experience has shown that two bushels of seed to the acre is a judicious quantity; and if upon this be sown four or five quarts of red clover seed, the product will be enhanced in both quantity and quality.

But it is with reference to seeding down *pasture lands* that we propose to say something at this time. And the first word is, that this is a matter much less perfectly understood than the establishment of meadows. Timothy alone, or timothy, red-top, and blue-grass, will make a permanent meadow, which will produce heavy crops of good hay for many years, if well treated. So orchard grass alone, or orchard grass and red clover, will make a good, permanent meadow, with reference to the product of which no reasonable man will have cause to complain, unless he feeds it off too close the first year, and suffers it to be abused subsequently.—But for good, permanent pasture, *many grasses* are wanted. Yet, in one section of our State, we find land laid down to blue-grass; in another section, to timothy; in a third, to orchard grass and red-clover combined. Rarely do we find more than two or three grasses growing in the same pasture; yet, not less than one hundred species have been described by botanists, as growing spontaneously in the great Mississippi valley.

In England, as many as twenty-two species of grass have been found growing upon a square foot of ancestral pasture, that had been grazed unremittingly through many generations. And English pastures wear well, producing food for a long period, from very early in the spring to very late in the fall. Why? Simply because, instead of being confined to one or two grasses, that start about the same time in the season, and mature about the same time, as is the American custom, they seed down the lands intended to remain for a series of years in pasture, with all the varieties that will grow upon them, and thus secure a *regular succession* of succulent and nutritious food the season through.

From the N. Y. Jour. of Commerce.

THE PACIFIC GUANO ISLANDS.

The present year will prove decisive as to the value of the alleged discoveries of guano in the islands of the Pacific Ocean, and which, by the Congressional law of 1856, may now be considered as appertaining to the United States. The numerous cargoes of the new fertilizer already, or soon to be, on the way home, will insure for it a trial in almost every variety of soil and climate, and demonstrate its value or worthlessness. Chemical Analyses, and speculations of whatever kind, will be superseded by the tests of practical agriculture.—Should the sanguine expectations of those immediately interested be realized, employment is secured for all our surplus tonnage for years to come; and the agricultural interests of the country are immeasurably enhanced. But Jason's celebrated expedition in quest of the golden fleece, and the memory of the "South Sea Bubbles," are yet too freshly in mind to admit of prompt credence being given to claims so enormous.

Between fifty and sixty islands, the principal of which are situated between 1 and 4 degrees of the equator, North and South, and from 100 to 180 degrees West longitude, have been taken possession of by the citizens of the United States, in conformity to the Act of Congress, approved August 18, 1856, securing to discoverers their rights in this description of property. Some twenty of these are believed to contain large deposits of guano, and with regard to six of the largest, this fact has been definitely ascertained. The existence of these islands originally became known to captains of whalers, whose rights, thus acquired, have all been transferred to the two Guano Companies, now organized in New York, after being recorded in Washington and recognized by the Government. The first suspicion as to the real value of the guano deposits of the Pacific islands, occurred to the mind of Capt. Baker, in 1853, on his return voyage, at Pernambuco, where he saw a vessel loaded with Peruvian guano, which put in there in distress, and observed the close resemblance between her cargo and the "stuff" on Baker's island, where he had buried a man. On arriving home, he disclosed the matter to A. G. Benson, of this city; and from this beginning, dates all that has since occurred.

The organizations engaged in working the Pacific guano islands, are respectively named the "American" and "United States" Guano Companies—the former holding Jarvis and Baker's islands; the latter, all the rest, of which Howland's, Christmas, and Malden are the principal. The Jarvis Island guano varies materially in quality, though appearing much the same to the inexperienced eye—one portion containing about 80 per cent. of phosphate of lime and magnesia, which are the essential constituents of cereals; while other specimens comprise over 60 per cent. of sulphate of lime, a substance largely absorbed by plants of the bulbous kind. We have seen vegetables of enormous size (a beet which it would be hard to beat, among the rest,) also corn, not less remarkable, said to have been grown by the use of these different varieties.—The guano from Baker's Island is a uniform quality, and represented to be the richest ever brought to

this market. The other islands present the same general characteristics as to the nature of their deposits; and the quantity, according to the results given of the survey, is almost unlimited. Christmas Island, for example, the largest yet discovered in that part of the Pacific, is computed to contain not less than 50,000,000 tons; while the deposit on Jarvis, Baker's and Howlands are severally believed to be not less than 3,000,000 tons in measurement. At nearly all of these islands buoys are indispensable, for the security of ships in loading; but two of them, Christmas and Phoenix, are said to have harbors affording safe anchorage for ships of the largest class. Capt. John P. Jayne, of Providence, Rhode Island, says of the former: "Outside the reef, on the western side, there is a sloping bank of fine sand, which affords an excellent anchorage for ships in ten to thirty fathoms of water. The best anchorage is opposite the northern passage into the lagoon, just off Sandy Island.

The cargo of guano brought to this port by the ship *Aspasia*, about a year ago, it having been previously conveyed to the Sandwich Islands by the steamer *Liholiho*, was the first received, with the exception of twenty barrels from the same lot, which was forwarded in advance, over the Isthmus, to the United States Patent Office, and from thence distributed over the country for trial. The results of this trial, as published by order of Congress, were, generally, very favorable. Since then, four ship loads have arrived at the Atlantic States, all within three months, and are being disposed of for about thirty dollars a ton. Eight more ships are supposed to be on the way, with from 10,000 to 12,000 tons on board. The latter are under a contract with Wm. H. Webb, who has a competent chemist at the islands, instructed to select guano of the best quality. The United States Guano Company have taken up ten or twelve ships on the Western coast, to load at their islands for New York, which are now on their outward voyage. It thus appears that the alleged guano discoveries are receiving more attention from commercial men than heretofore.—Should the claims advanced in their favor be substantiated, so that the agriculturists of the United States can have access to vast depositories of a rich fertilizer, now hoarded up in the desolate islands of the Pacific Ocean, and from which the soil, exhausted by long tillage, may be constantly renewed, we have acquired a mine of surpassing wealth.—We are told that "every ton of guano from Howland's Island, (if equal to the specimens already analyzed,) furnishes to the soil more than fourteen hundred pounds of that ingredient which constitutes more than three-quarters of the value of every bushel of wheat raised in the world, while a ton of Peruvian guano furnishes only five hundred and twenty pounds, or less than one-half." A report of experiments recently submitted to the public, by the American Guano Company, contains the following: "We believe that the natural combination of the phosphates and sulphates of lime, not to be imitated by art, is destined, by its indisputable effects, to work a revolution in the department of scientific agriculture."

But "a bird in the hand is worth many in the bush." We shall know more about the matter by-and-by.

From the Louisville Journal.

ROTATION AND DEEP SOIL—A CORN EXPERIMENT.

Regular rotation of crops, and deep plowing, are working wonders upon some of the old and long-worn farms of New England. In the discussions before the Maine State Board of Agriculture, which met at the seat of Government in January, many of the delegates bore striking and uniform testimony to the value of both these practices, especially upon lands that had been cropped hard. One of the members mentioned a field of fifteen acres, "badly bound out," which was plowed three inches deeper than ever before, and after an application of three bushels of plaster of paris, produced a yield of 600 bushels of oats. This is forty bushels to the acre. Another reported a yield of 82 bushels shelled corn per acre—56 lbs., to the bushel—from a field similarly treated.

Results very like these could be obtained from many of the old fields in Kentucky, which now grow nothing but sedge and briars, if deeply plowed, and the application of plaster were substituted by a generous quantity of barn-yard manure, or a compost of which the base should be stable dung and scrapings from the woods.

We have our mind's eye now upon an old field, twelve miles from Louisville, which was treated in this manner three years ago, and gave a yield of corn in return that much more than paid expenses. Without further preparation it was seeded to grass, sown upon the corn stubble, and will, this coming season, be more than fair pasture or meadow, for one or the other of which it is designed. The corn in this experiment was manured in the hill.

Our farmers complain of the great labor and heavy cost of such experiments. But such complaints are without reason. Every farmer who keeps merely two or three horses, four or five cattle, a half-dozen sheep, and a dozen hogs, if he will only litter his stalls, pens, and barn-yard, with the cheap litter afforded by the woods, a short distance from his dwelling-house, in quantities enough to furnish his animals with comfortable bedding, he can have every year, by planting time in the Spring, a mountain of compost, such as we have described, that will perfectly astonish his own eyes.

So much for the cost of that part of the experiment. It really costs nothing, for it will pay for itself in the increased comfort supplied to his stock, and the diminished quantity of food necessary to carry them through the Winter. As for the labor and expense of hauling out, that is not very formidable, when you post up and look the thing right in the face.

In the instance to which we have referred, after the field was checked off for the seed, a two-horse wagon and three men manured four acres per day—giving to each hill a large shovelful of the compost. The actual expense in this case was probably two dollars per day, but in any case would not be over four dollars, or one dollar per acre. Without the manure, the old field might possibly have yielded 25 bushels to the acre; with it, it yielded about 40 bushels. Difference—15 bushels, which, at only 33½ cents per bushel, is \$5.

All this is clear gain, for the cost of hauling out and applying the manure is fully repaid by the condition in which the crop left the ground for grass.

After this field has lain in grass two or three years, it will probably be turned over for another trial, and we will then speak of it again.

From the Ohio Valley Farmer.

KEEP UP THE FERTILITY OF THE SOIL.

It is not only the farmer's duty, but it should be his pride, to keep up the fertility of his lands.—Indeed, he should constantly strive to cause his grounds to grow richer as year follows year. By so doing, when he has departed this life, another generation shall rise up and call him blessed. What a satisfaction to one who aspires to *do his duty*, to be able to leave that portion of mother earth that has fed and clothed him, in a better plight than he found it. On the contrary, how unenviable must be the thoughts of him who leaves a dilapidated and worn-out farm as a legacy to his children who succeed him? And what ingratitude to the soil itself, that has nourished and fed him for so many years. How, then, can we keep up the continued richness of the soil, and even add to its fertility and fatness?

This question we propose briefly to answer. And the answer could almost be comprised in these words: *Give attention to the grasses.* Do not continue to keep a field under the plow for ten, fifteen, or twenty years. Each field, as a general thing, should be in grass at least half the time. In each period of six years, let your field be in clover, timothy or blue-grass three years. After being in meadow or pasture that length of time, it may be broken up deeply in the fall, and then planted in corn the ensuing spring. In the fall it may be manured with barn-yard dung spread liberally over the surface, and a corn crop be planted again the next season. The third crop may be wheat, when the field should be put down in grass again, to remain another three years.

One of the great causes of deterioration to the soil, when not level, is its *washing* by the action of the rain. Deep culture, attention to surface, and under-draining, and keeping the ground at least half the time in grass, will be found to prove very effective in guarding against such a calamity.

The amount of manure necessary to be applied to a field to keep up its fertility will be found far less, when the ground is covered with grass half the time, than when all the while the field is under the plow. Indeed, with such a rotation as we have here pointed out, one thorough manuring once in six years will be found quite sufficient. And by adopting this plan the additional amount of stock that can be kept on the farm will furnish an ample supply of manure to each field every sixth year.

By the practice of deep tillage, and by attention to thorough drainage, the soil will also gather from the atmosphere and the rains a large amount of enriching substances that would otherwise be lost.—By following the directions above laid down, large crops will be the result; and the soil will be increasing instead of diminishing in fertility.

Keep true to the dreams of thy youth.—*Schiller.*

VALUE OF SCIENTIFIC INSTRUCTION TO FARMERS.

No mistake is more common than to suppose that science means scholastic puppyism. Every practical farmer who understands cause as well as effect, is a scientific farmer. Indeed, every man, whatever may be his calling, who understands what he performs, and does not blindly follow mere empirical recipe, is a scientific man; while those who do not, are simple quacks. A mere farm-laborer, who works like a machine, obeying orders, is valuable as a laborer; but it is a great error to call such an one a practical farmer, simply because he can handle a tool and show warts on his hands. Science means knowledge reduced to a system so as to be easily taught and readily understood; and any farmer, whatever may be his expertness as a plowman, who cannot tell why he plows, except by answering, that crops grow better from such practice, makes a mistake when he calls himself a practical farmer. He should understand so much of nature's laws as to avail of them most profitably; and those who speak of errors in the application of chemistry or natural philosophy to farming, as science, do not know the meaning of the term.

By referring to our definition, it will readily be seen that no such thing as a scientific error can exist. It is the absence of science that causes errors, and not its practice. If nature's laws were clearly understood, what farm would be without under-drains? What field would be manured with inappropriate substances not deficient in the soil, and not required by the crops? Who would believe that redundant amounts of ammonia were more valuable than inorganic constituents in a proper state of progression, such as are found in the ashes of every plant? Who would repudiate the subsoil plow or an under-drain? Who knows that under-drained soils never suffer from drouth, and that subsoiled meadows never run out, and who clearly understands the causes why these *two* facts always prevail?—*Working Farmer*.

CLAY AS AN AMENDMENT TO SANDY SOILS.

Soils void of clay, or containing it in too small a relative proportion, are materially improved by a top-dressing, and particularly when the clay finds its way to the soil through the compost heap. In such case it exercises its peculiar power of absorbing ammonia and other products of decay, and afterward yields up to plants the materials thus absorbed. While the clay is thus performing an useful office, itself is changed in condition so as to lose its greater tenacity, only holding this property in a sufficient degree to add firmness to sandy soils after its addition. The quantity of clay required to amend a sandy soil incapable of retaining manures, and indeed, when even *blowey*, is not as large as many suppose. One thousand bushels per acre is sometimes quite sufficient, if evenly spread, and left on the surface for a time before being plowed in, so that rains and dews, assisted by sun and air, may cause the division to become more perfect. It is not the clay alone which corrects blowey sands, but in addition to its own effects directly, the roots of crops, grown by its assistance, lend their aid.—

When clay and vegetable mould can both be added to sandy soils, as in the vicinity of muck deposits, then the amendment is still more perfect.

The value of this kind of amendment is its permanency; for, as the clay is not appreciably used by plants, it continues forever to imbue the sand, and each year to re-perform its function of retaining gases, abstracting valuable constituents from solutions, in addition to its mechanical use in giving the necessary solidity and adhesiveness to the soil.

Many are not aware that some sandy soils, notwithstanding the peculiar light condition of the dry surface, are still more difficult to disintegrate deeply by a sub-soil plow than heavier soils, settling by rains like a *sea beach*; in such sands many kinds of clay seem to act as a *lubricator* to the surface of their particles, and after being elayed they may be the more readily plowed.—*Working Farmer*.

PRACTICAL MEN.

Professor Henry says:

"Mere Practical Men. We have no sympathy with the cant of the day, with reference to 'practical men,' if by this term is meant those who act without reference to well established general laws, and are merely guided by empirical rules or undigested experience. However rapidly and skillfully such a person may perform his task, and however useful he may be within the limited sphere of his experience, and in the practice of rules given by others, he is incapable of making true progress. His attempts at improvement are generally not only failures, involving a loss of time, of labor, and of materials, but such as could readily have been predicted by any one having the requisite amount of scientific information. It is the combination of theoretical knowledge with practical skill, which forms the most efficient and reliable character, and it should be the object of the agricultural colleges to produce educational results of this kind." * * * *

We are glad to see the above, by Prof. Henry, as it particularly applies to agriculturists. The future of agriculture will owe its progress to those who, in addition to physical ability, will apply the lights of science to their vocation. No man can be a *practical* farmer who simply delves as a laborer, without understanding, at least in degree, causes as well as effects. To succeed in a *special locality* by simply carrying out the practice of others, will not insure progress elsewhere. Where natural law is fairly understood, then the operator can apply his knowledge to any locality or variety of circumstances.—Farmers should at least know so much of the sciences, as will enable them to clearly comprehend the writings of those who investigate more clearly than themselves.

DAIRY SALT.—A correspondent of the *New England Farmer* furnishes the following mode of preparing dairy salt: "Take the best crystal salt, wash it, dissolve, strain, settle and turn off; boil it down in some perfectly clean iron vessel, skim as boiling; when stirred off dry, it will produce fine salt, white as the drifting snow, which, if stirred up in a glass vessel of water, will produce no sediment, and will be distinct from any mineral or other possible impurity."

ISOTHERMAL BELTS.

We transfer to our columns a capital letter from the pen of Mr. LENOIR, of North Carolina, upon that interesting mountain region over which the Frost King rarely wields his sceptre.

We have heard of this no-frost region for a long time, but the story has generally been considered rather apocryphal. The attention of intelligent observers seems now to be directed to it, and we will soon have all the facts before us. There seems to be no doubt of the existence of a zone about the slopes of some of our mountains, where frost nor dew rarely falls. Prof. JOHN LE CONTE, a gentleman as remarkable for his common-sense observation, as his scientific attainments, is inclined to think, if we mistake not, that this zone overlies the region of fog. It is a matter well worth investigating, and we trust our meteorological friends will keep the ball in motion.

Mr. LENOIR speaks of seeing the ground covered with apples in the orchards on the Brushy Mountains—as fine apples as he ever saw—on the 8th of January. “My stars!” is not this enough to make a pomologist of the plains feel like pulling up his stakes forthwith, and moving mountainward.

A friend at our elbow, who has camped out, Winter and Summer, in the neighborhood of Tryon—tells us that he has seen grapes hanging in clusters upon the vines at Christmas, as plump and delicious, almost, as in Autumn. Grapes and apples at Christmas! and is this not “something new under the sun?”

It is well known that the cattle and deer, after a killing frost at the base and summit of some of the mountain ranges, seek this belt, and keep fat on wild pea-vines and native grasses for some time afterwards. The mountains, by the aid of railroads, are annually being drawn nearer to the seaboard, and the facilities for disposing of their locked-up treasures will soon create a demand for everything, and develop the resources of this interesting region.

We will be candid enough to confess to a cordial antipathy to “Jack Frost,” and would rejoice to see his sceptre depart from him, even upon the conditions of becoming the subjects of Fog-dom.

From the N. C. Planter.

MOUNTAIN CLIMATES AND PRODUCTIONS IN NORTH CAROLINA.

MESSRS. EDITORS:—Raised in the mountains of North Carolina, allow me to furnish you a brief sketch of some of the advantages and peculiarities of that region, with some facts possessing more or less interest to those wishing to make further investigations; and which I had promised to furnish the late editor of the Wilmington (N. C.) *Herald*, prior to his death.

“Mount Tryon,” in Rutherford county, has long been celebrated for its exemption from killing frosts; and believed (very erroneously, however,) to be an

anomaly in this respect. More recently other points of the mountain ranges have been quite as erroneously represented as entirely free from dews and frosts, even by men of some pretensions to science. A very pleasant and intelligent writer in the August and November numbers of the *N. C. Planter*, from Franklin, N. C., has furnished some interesting particulars in regard to the mountains of that section, in connection with the subject of fruit culture, and the “genial influences of the *Thermal Stratum*” in the preservation of the most tender plants; still he does not correct the *common error*, by stating simply, that “above the well-defined outline of this stratum, on the mountain-sides, frost abruptly ceases.” In placing the frost line at an elevation of three hundred feet, it is too indefinite; as that height or gage will not apply to many valleys of rolling and uneven surface, while the surface of the heavy dew and frost stratum represents a plain, level, or nearly so, in each valley or basin, though differing greatly in comparative elevation in different valleys. These valleys are often separated on the same streams by abrupt descents, and divided by cross ranges or spurs from the higher ranges of mountains. These higher ranges are mainly, and in some instances *entirely* above the plane of killing frosts, and in some *highly favored* localities includes some of the adjacent flat lands also, while the deeper and more central portions of the valleys may be more than three hundred feet below this plane.

Within the limits of Watauga county, N. C., are embraced some of the extreme head waters of the Ohio, Tennessee, Santee and Pee Dee rivers, watering beautiful and fertile valleys, confined more or less by surrounding high mountains. The dew here is very heavy, and the outline of killing frost as well defined as in valleys on the same streams below, though differing in elevation from five hundred to two thousand feet. The level of killing frost in each situation is very nearly the same in all instances, and in different years.

About the 20th of August, 1837, I witnessed well-defined outlines of killing frost along the sloping hills and mountains of Western New York, and at various times since, at different points along the Alleghany and Cumberland ranges, in Virginia, Tennessee, the Carolinas and Georgia; but more accurately on the 16th of April, 1849, about the 20th of May, 1852, on the 28th of April, and in the Autumn of 1857, and Spring of 1858.

The same effects of frosts are said to influence the growth and maturity of grapes on some of the European mountains, and I suppose is common to most, if not to all mountains. This warm stratum covers, I suppose, the greater part of the earth, at a small elevation above its surface. The *area* of lands, however, that lie within this genial clime, and fit for cultivation, is very limited; and to citizens of the broad and extended belt of country between the Atlantic coast and the Blue Ridge—the *South* and *Brushy* mountains (and some other isolated points) are destined to become places of increasing interest and value. In the hands of intelligent fruit-growers it would be charming, indeed. So well defined was the outline of killing frost along the base of the mountains after the frost of the 16th of April, 1849, that all above, to their summits, extending some ninety to one hundred miles, were clothed in the brightest and greenest robe that the half-grown leaves and tendrils could give, presenting a strange

contrast to the broad and blackened places below, extending north and west to the Blue Ridge, and eastward to the pine lands in the middle portions of the State. In the Autumn of 1857, when the corn and other vegetation was killed in Lincoln, Iredell, and other counties below, there were cornfields on these mountains, and even above the high valleys alluded to in Watauga county, left perfectly green and unstained by the frost. Later, however, frost was seen as usual, on the higher lands, even to the summits of high mountains, (lightest, however, on the highest points.) Long after killing frost below, I have seen corn, cotton, cornfield peas, pepper, tomatoes and watermelon vines, continue green; most of them blooming fresh, and some of them growing luxuriantly. This warm clime is sought, especially at this green season, by birds and animals; and the sensitive deer is then sought for, (in hunter's phrase) "on the high ridges." Some sensitive persons residing here, complain of the chill on going below.—Here, too, apples, peaches and the more delicate fruits, especially grapes of several varieties, grow in greatest perfection, and are rarely known to be injured by frosts. I have eaten the Northern and low-country fruits, both in the Northern and Southern markets, and feel assured, by comparison, that the fruits of the Brushy and South mountains will ripen in greater perfection than in the more northern latitudes, the low country, or the higher Alleghany Mountains. Next in quality, I suppose, will be the south-western portions of the Alleghany and Cumberland mountains.

On the 6th of January, two years ago, and now (as I witnessed a few days ago) in some orchards on the Brushy Mountains, the ground was covered with as fine apples as I ever saw; and many trees almost breaking with the weight of the fruit; and these orchards had not been trimmed or cultivated for ten to thirteen years. This fruit was but slightly injured by frost; and I was told that a harder freeze would only make it better for present use. The same varieties in the valleys below, with less aroma and saccharine, have rotted long since. Other tests, too, have shown the marked superiority of these fruits.

The effect of this warm, dry atmosphere upon the *cereals* is not less marked and significant, and may, by further investigation, be productive of some practical results. *Rust* here is scarcely, if ever, seen; and notwithstanding its general prevalence and destructive effects throughout the Atlantic and Western States, upon the harvests of last year, the wheat and oats on the Brushy Mountains, and also upon the high mountains of Watauga, were of superior quality, and the straw, as may now be seen, is remarkably bright and clean. Whether science has, or has not, fully developed and explained *all* that is useful and curious in these phenomena, it is desirable, at least, that the subject be made more familiar to readers generally.

Is this plane of the heavy dews and frosts, (so definitely marked,) and also those marked above, *one*, by fogs, that fill our valleys in damp weather, and *another*, still higher, upon which the clouds rest that sometimes veil our mountain heights? Or, is the *cause* of these different strata understood? Do their different temperatures sometimes affect barometrical measurement of height? Can they be satisfactorily accounted for by the principle of gravitation? Are there not some acetous or poisonous elements prejudicial to the health of animals and plants, and which,

with the dew, seeks the lowest level? May not the citizens of populous and unhealthy cities (at small expense) extract from the higher and purer air, enough, at least, to expel the unwholesome atmosphere from their dwellings? Is not the small area of land above the cold and humid atmosphere, of intrinsic value to invalids, especially in pulmonary and rheumatic diseases? Would not those who are depressed and enervated by unhealthy districts, and wish to be recuperated, find this a charming place of resort, where the dry, stimulating air, pure water, and some of the most lovely landscape and mountain scenery, combine to minister to their mental and physical enjoyments? Around them, standing in bold and beautiful array, along an extent of hundreds of miles, and nearly in the following order:—The "Peaks of Otter," White, Phenix, Negro, Three-top, Elk, Rich, Hanging-rock, Flat-top, Grand-father, Yellow, Roane, Hawkbill, Tablerock, Bald, Black (with its several heights), Caesar's head, Mt. Pisgah, Shining-rock, Balsam; and still father on, the towering heights of the "great Smoky Mountains."—Many other points of interest are omitted here; while the Pilot, King's Mountain and Hibernon stand like *sentinels* in the vast and ocean-like plains below. It is here, in these "*Highlands*," that the Mountain Boys learn, (as their fathers did,) to love the "Old North State," and to venerate and defend the "*American Union*."

I will close here, as my sketch has grown longer than I intended.

WM. A. LENOIR.

Fort Defiance, N. C., Jan. 8, 1859.

USEFUL INFORMATION.—The washerwomen of Holland and Belgium, so proverbially clean, and who get up their linen so beautifully white, use refined borax as a washing powder, instead of soda, in the proportion of a large handful of borax powder to about ten gallons of boiling water. They save in soap nearly one-half. All the large washing establishments adopt the same mode. For laces, cambric, &c., an extra quantity of the powder is used, and for crinolines (required to be made very stiff), a strong solution is necessary. Borax being a neutral salt, does not, in the slightest degree, injure the texture of the linen; its effect is to soften the hardest water, and, therefore, it should be kept on every toilet table. To the taste it is rather sweet—is used for cleansing the hair, is an excellent dentrifice, and, in hot countries, is used with tartaric acid and bi-carbonate of soda as a cooling beverage. Good tea cannot be made from hard water; all water can be made soft by adding a teaspoonful of borax powder to an ordinary sized kettle of water, in which it should boil. The saving in the quantity of tea used will be at least one-fifth. To give the black the flavor of the green tea, add a single leaf from the black currant tree.—*Scientific American*.

A FARMER'S STORY.—At the Woodbury plowing match, a few days ago, Mr. John Daw told the following anecdote:—Having drained a field where nothing had ever grown before, I was standing near looking at a crop I had there, when a neighboring farmer came up and said to me, "That is a bootiful crop! how did ee get it, sur?" I replied, "Brains." (Laughter.) "Wat! manure the field wi' brains?" (More laughter.) The fact was, I had drained the field; so I said, "Yes." (Renewed laughter.) He replied, "Lord, your honor, where did ee get um?" (Roars of laughter).—*Shelbourne (Eng.) Journal*.

The Apiary.

"In the nice bee what sense so subtly true,
From poisonous herbs extracts the healing dew."

NEW AND CHEAP FOOD FOR BEES.

It is stated in the *London Gardener's Chronicle*, that a correspondent of that paper has long been in the habit of supplying the London shops with fresh honey in the comb, all the year round. In the hardest Winter his supply was equal to the finest Summer. How he succeeded in this was a mystery. It finally came to light that he fed his bees, in the absence of flowers, on a solution of the oil cake, made from the seeds of the Bene Plant (*Sesamum Orientale*.) Indeed, he would boast that he wanted no flowers for his bees.

The *Sesamum Orientale*, or Bene, is cultivated in various parts of the world, both as food and for oil. The oil remains sweet for a long time, and is sometimes used as a substitute for sweet oil. In China and Cochin China it is used as a substitute for butter, in preparing the various dishes. It is cultivated to a considerable extent in several of the Southern States. It is sown in drills about four feet apart, in the month of April, and the seeds are gathered in September; it yields a large proportion of oil, which is expressed in the same way as linseed oil. It grows much like cotton, from three to six feet high, and bears numerous square seed-pods, about an inch and a half long. The leaves of the plant have long been used as a remedy for the dysentery, and cholera infantum, or Summer complaint of children.—For this purpose, the freshly gathered leaves are placed in a tumbler of cold water, which immediately becomes ropy, without losing its transparency, or acquiring any unpleasant taste, and is readily, and even gratefully taken by the little sufferers, and in such cases is used as a substitute for other drinks.

The *Sesamum* is, indeed, a valuable plant, if cultivated alone for its medicinal and domestic uses, if not for its oil, which last, however, under proper management, would prove a profitable product, where the climate favors its perfect maturity, which, perhaps, would not be north of the 38th or 39th degrees of latitude. The *Sesamum* cake is extensively used in France for manure, and is most valuable for all growing crops.

Should the *Sesamum* prove as valuable for bees, as the statements seem to claim for it, it would warrant the importation of the oil cake from England and France for that purpose. But we would advise some experiments for this purpose before much expense was incurred in that way.

The *Flore des Serres* relates the discovery of the value of the cake for feeding bees, from the following circumstance: Two bee-masters, in a village in the department of the Var, in the south of France, were in the habit of wintering their hives in the forests of Mandelieu. When uncovering the hives the apiarians perceived, about noon, on the 4th of May, 1856, that their bees were out, and yet the hives were full, and of extraordinary weight, for the time of year. Surprised at the circumstance, and

wondering what the bees could be at, they remained on the watch till evening. About 6 o'clock the bees began to return, loaded with an incredible quantity of the richest plunder; so heavy, indeed, were their burthens that the least experienced observer could not have failed to notice it. Astonished at such an event, the bee-masters proceeded to examine the fields and mountains in the neighborhood, but in vain; they discovered nothing in the country around them, at all different from preceding years. At last they crossed a field in which the oil-cake, resulting from the pressure of *Sesamum* seed, was being prepared for putting into the ground with potato setts, as is the custom in that country, where *Sesamum* cake is much valued as manure.

The cakes had been steeped in a pit of water till they were reduced to a state of liquid paste, for it is thus that cakes are used with most success at Mandelieu. "Oho!" said the farmer who was planting the potatoes, on seeing the apiarians, "You are come to see how we make bee-soup. Look there, every day for some time past, we have been overrun with your swarms, and they feast famously; they take their fill, I assure you." On returning to the same place next morning, the mountaineers were convinced of the truth of what the farmer had said, for there were the bees in prodigious numbers, buzzing about the tub, and feasting on the *Sesamum* cake which it contained.

The bee-masters from Mandelieu took the hint.—They immediately placed near their hives some large tubs, filled with *Sesamum* cake, dissolved in water to the consistence of pap. The bees no longer wandered from home; the tubs were kept regularly filled with "soup," as the farmer called it, and the bees stayed at home. The food has since been given in Winter with perfect success, only, if the weather is frosty, it is necessary to use warm water, in order to keep the *Sesamum* cake soluble. The results have been astonishing, not only in a large increase of honey-comb, but in enabling the bees to increase beyond all belief, nearly ten times the quantity being bred in consequence of the facility afforded of obtaining abundant, and, as it would seem, excellent nourishment, from this unexpected source.

It is an easy matter for some of our Southern bee-fanciers, where the plant is grown, to make an experiment, and see whether there is any exaggeration in this French statement. We know that the French are a visionary people, always making some grand discovery in nature—but as this statement is given with so much clearness, it seems to bear upon its face the semblance of truth, and as we can see no room for them to be deceived, nor any motive in them to deceive others, we think the facts should be proven by experiment.

SOMETHING IMPORTANT.—You will make more butter from less cows and more feed, than from more cows and less feed than they need. That is nothing but common sense, and yet there are a vast number of people who give no evidence of its possession in their practice.

"You can't do that again," said the pig, when the boy cut off its tail.

The Farmer and Planter.

COLUMBIA, S. C., JULY, 1859.

"TAPE-WORMS OF MAN, AND MEASLES OF HOGS."

Our notice of this very interesting article, from the pen of one of our most lucid and original writers, was crowded out of our June number. We ask a careful perusal of it; it develops some very wonderful truths, well worth our study. We would be greatly obliged to the writer, at any time, for anything half as good.

CHINESE SUGAR CANE.

We thank "Winnsboro'" for coming to the rescue of the "Sorghum," for the high price of cotton seems to have crowded the distinguished celestial out of all the fancy lots about the homestead. We wish Winnsboro' would stir up his friend, Maj. LYLES, (we have heard of the Major before "in many particulars," and particularly as a good planter,) and make him get to his post to aid in the laudable enterprise of making the *Farmer and Planter* the *Vade Mecum* of the agriculturists of South Carolina.

PACIFIC GUANO ISLANDS.

We clip from the *Journal of Commerce* a very interesting article on the Pacific Guano Islands. The immense demand which has sprung up all over the world for this wonderful fertilizer, has stimulated our Yankee cousins to explore all the Islands of the Pacific, and take possession of every one which promises to pay. We can see no good reason why as good guano as the Peruvian should not be found in the Pacific. The monopoly enjoyed by Peru keeps its guano at an extravagant price. It is not because it cannot be afforded for less, but because so many agents have to be supported, on its way to our fields.

If (as the article above alluded to says,) a better guano than Peruvian can be had, for the same money, it will be a glorious discovery. Whether guano is destined to become the renovator and fertilizer of our poor lands, is a question we are not prepared to answer. The fact however, that hundreds of thousands of dollars have been invested in this State by our most sagacious and successful planters, for this year, based upon the success of last year's operations, together with the increase in the production of cotton in the old plantation States, is sufficiently startling to make every one feel the importance of watching its effects in developing the resources of the State.

As many days as we pass without doing some good, are so many days entirely lost.

NEW SERIES, VOL. I.—27

TO AGRICULTURAL AND HORTICULTURAL SOCIETIES.

We invite the attention of our readers to an interesting report on Orchards and Vineyards, made by the Aiken Vine Growing and Horticultural Association, which we clip from the *Charleston Courier*.

We would be very happy to offer our columns to all such reports, and it would seem most natural that our Journal, being the only one in the State, devoted exclusively to Agricultural and Horticultural pursuits, should be made the medium for diffusing such information; but it is a little remarkable, that less sympathy seems to be felt for the success of our Journal in that region than any other portion of the country. We will not speak of that, though, but freely offer to do our best to advance the good cause in which they are engaged.

ACCOMMODATIONS FOR THE NEXT FAIR.

The City Council of Columbia, in making provisions for the erection of an Amphitheatre at the Fair Grounds, have given a substantial evidence of their appreciation of the benefits of these annual festivals to the City.

There is only one more thing wanting to secure the success of the Exhibition—but one thing to make it popular and abundant in good fruits—and that is, proper accommodation for all the visitors.

Sensible people do not go to such places with the expectation of having everything snug and comfortable; they go for a frolic, and will be content with any accommodation, if it be cheerfully offered. A disposition to make people feel easy and comfortable will cover many disagreeables. At the last Fair there was a sad want of attention to the wants of strangers. Many came to the City and left it without seeing the Fair, because they could not procure lodgings. No blame could be attached to the City, for the hospitality of its citizens is too proverbial to allow a doubt to arise to their disadvantage.

Amidst the general confusion and the immense crowd on that occasion, it would have been no easy matter to have made the necessary arrangements.—But we trust that before the next Fair, matters may be better understood. The hotels should not be forced to try to accommodate more than they can. By so doing they do themselves an injustice, and please nobody; but it would be an easy matter to have at the hotels lists of the private houses where gentlemen or ladies could obtain lodgings or rooms, which might be occupied, and the occupant allowed to eat where he pleased. Such difficulties have been overcome elsewhere, and there is no reason why they should not be here. Let the good people of Columbia see to it. Visitors do not ask to sponge upon the City, but simply to be allowed bed and board for a few days.

THE PROFESSION OF AGRICULTURE.

Yes, good reader, dignify our great pursuit by styling it "*a profession.*" Let it no longer linger in the minds of our youth, as a pursuit secondary in point of importance, to the law, physic, or mercantile occupations. Remember, boys of the land, that the tiller of the soil, and the teacher of the mind, are the two greatest adjuncts of the Creator, in the great system of life. The one furnishes the pabulum of life, the other opens the great intellectual avenues which feed the soul, nerve the will, and gives reason that direction which enables thought to achieve the sublime mastery over matter. Three-fourths of the people of our nation are supposed to be engaged in agriculture. The other fourth may be allotted to the occupancy of the mechanical pursuits, the professions, and all other employments, not excepting the loafer. All these, the non-producers, and the women and children, are dependent on agriculture for their support. They live, feed, fatten, and grow rich on the labor of the agriculturist. When he is prosperous they hold up their heads. Whatever benefits agriculture, then, is of direct advantage to three-fourths of our entire population, and incidentally confers benefits upon the rest of mankind who dwell amongst us. Then let the importance and dignity of our pursuit be acknowledged. Let the light of science and education, adapted to the calling, be afforded to all who are designed to do the battle of life in its ranks. First in importance, first in all the requisites of skill, mental activity and enterprise, let agriculture hold no secondary rank, but be first in the hearts of our youth.

It is *July*—hot, sweltering—heated as an oven, the city stands broiling in its dust. The sultry, stifling air and pent up stores, cause many a thin, pale-faced youth, who stands waiting for customers, to sigh for the green fields, the brooks and the orchard, which he deserted to become a "genteel merchant." So, too, does the student, amidst his musty tomes of law, and the rattling, ghostly bones of anatomical science. They all long for home pleasures, which, in the hot fevered chase of life, they shall know no more. How many would exchange faded cheeks and soft hands, fevered dreams and listless hope, for energy of constitution and manly brawn—for labor beneath a broader and purer sky—for hands browned by healthy exposure—toil cheered by sweeter pleasures, and that oblivion of rest which knows refreshment upon its waking?—The green lane, and the trees with their offerings of blushing fruit, rich in all the aroma and nectar which the seasons have elaborated in their tempting forms; the willow skirted stream, the fields and woods, where he

"Chased the rabbit, caught the minnow,—
Sowed his wild oats without crime,"

all come up in his fevered dreams, and mingled with his aspirations and ambitions, leads him back to those days of pleasure, and keeps alive in his soul the genial, invigorating, healthy influence, of Nature's air. Thus living and lingering—jaded and worn down in their pursuit of wealth, the longing cry of the toiler is for a day of rest, and a wish that he may hear "the voice of God in the garden at the cool of the day." Though in early life countless beings chose other pursuits—the natural longing of man is to leave the bustle of business, and retire from the crowded thoroughfares to the pure retreats of rural life, which to them is a goal to be won—a resting place of quiet repose and tranquility, preparatory to the final voyage upon that sea whose tides bear us to the shores of an untried eternity. Not the business men of the world alone look to the day of rest and quiet of rural life, to soothe their declining years, but the statesman and he who holds the sceptre of power, all contemplate rural retirement as the bound of earthly exertion. The great and good man, whose name is a sacred word in his native State, to which he devoted his whole exertions, whenever he was allowed by the nation, rushed with eager haste to his heart's home at Fort Hill, and in the quiet repose of the farmers' life, forgot that he was the admiration of the world. The eloquent and soul-stirring WEBSTER, hurried from admiring Senates to the sweet solitudes of rural Marshfield, and there, surrounded by his flocks and herds, rekindled in his heart those early teachings of Nature, from which, with the forvid inspiration of burning words, he drew his most striking metaphors and most gorgeous similes. Our own O'NEALL, shines in rural life, and

"per lucos amoenos errose,"

throws down the ermine of justice to exact the cornucopia of Ceres. For these feelings, they were and are, all happier and better men. Man claims this final state of quiet composure—it is seemingly the last boon craved on earth, by those who have been honored with the applause of their fellow-men.—Pursued with energy, and guided by industrious resolutions, it is more certain to lead to success and competency, than any other which engages man's energies. Let it then be honored, exalted and engaged in, with a will to make it be felt as it is, the true element of a nation's prosperity. *

A seasonable gathering, and a reasonable spending, make a good housekeeping.

Do all you can in the world, and make as little noise about it as possible.—*Nettleton.*

Childhood and genius have the same master organ in common—inquisitiveness.

THAT BATCH OF AGRICULTURAL COLLEGES AGAIN.

The editor of the *Southern Rural Magazine*, the *American Cotton Planter and Soil of the South*, has boiled over with virtuous indignation at the unwarrantable opposition assumed by our * confrère against "that batch of agricultural colleges." Dr. CLOUD's attack seems to have been of infinite comfort to our contributor "S," in the June number, who expresses a wish to see the *whole* of the Doctor's remarks, as well as the remarks of the *Country Gentleman*, published in our columns. We beg to be excused—our * friend will doubtless be able to sustain himself in so good a cause; and although, to use a homely saying, we do not like to "sing psalms over a dead horse," we would be glad to learn if the sticklers for a strict construction of the constitution have come to the conclusion, that because Congress has ridden over the Constitution, in passing Railroad, Soldier, and Educational Land Appropriations, *argal*, it has a right to do as it pleases. Or do they advocate the appropriation, for the same reasons that the preacher did, who, not long ago, out west, was arrested for making and circulating counterfeit bank bills, "that he might be able to do more good, and send more missionaries to the heathen."

To our mind, the reasons assigned by Mr. Buchanan, for vetoing the bill, are unanswerable. If Congress have the power to appropriate her domain for the purpose of building colleges, it has the right to provide in the same way for the education of the people.

The Constitution has been reduced to a mere matter of form, by these "here a little and there a little" encroachments. If the time has come, when it can no longer be used as a shield to protect us against federal usurpation, let us candidly say so, and go in for making a "grab bag" of the Treasury. Let us proclaim aloud as our motto,

"The good old rule sufficeth me, the simple plan,
That he shall take who has the power, and keep who can."

Do not let us clamor for a latitudinarian construction to-day, because it may advance our interests, and raise a howl of indignation to-morrow, because some other section may claim a like privilege.

But, even setting aside the Constitutional grounds, we have seen nothing to convince us that such institutions were called for by the wants of the people.

Agriculture has not properly become a science.—When it shall be so recognised, and a desire to educate agriculturists scientifically is manifested, the demand will establish the college where it is *needed*. Colleges never, *per se*, made a people intelligent—there is more in the boy than in the college. An agricultural college in every district in the State would not make agriculture popular, so long as every

agriculturist follows the fashion of making lawyers and doctors of his smart boys, and planters of the fools. We call ourselves an agricultural people, and worship every popular idol in preference to Ceres.

Talk about agricultural colleges—during the last decade agricultural societies have been formed in every State, in almost every district of many of them; agricultural journals have been multiplied over the land, agricultural books published in thousands, seeds and books distributed by Government, gratis, and *cui bono*. Has there been an increase in the production of the cereals per acre? Has it lessened the cost of living? Has it put a stop to emigration to the fertile valleys of the South-west?

When the fertile lands of the west are all taken up and the tide of emigration sets backward, people will begin to think it may pay to make expensive investments in the improvement of old fields, but as long as rich land can be bought so much lower than people believe it will cost to improve old land, our people will move westward, and our agricultural progress will be slow. In our present condition all we require can be acquired at any of our Colleges, with a *will* to do it. As Mr. Buchanan says, "Sufficient unto the day is the evil thereof."

THE SEASONS.

We believe everybody feels at liberty to grumble at the seasons, and speculate upon their effects upon the crops. It has struck us that it would be a very good arrangement if we could obtain reliable monthly statements from various sections of the State, touching the seasons, the storms, fall of rain, stands of crops, diseases affecting them, mode of cultivation, area in cultivation of corn, cotton, small grain, grass, &c. Is it possible that we have not a sufficient amount of intelligence amongst our rural population to make it a pleasure to collect such statistical information?

Suppose some travelling Yankee should write home that the farmers here were such a set of ignoramuses that they could not, or so indifferent to the diffusion of intelligence, that they would not, prepare the simplest details for publication, wouldn't you feel like riding the fellow on a rail? And yet it is literally true, we cannot or we will not. How many of the readers of this journal write for its columns? Not one in five hundred. Is it because they do not know how? Our list embraces some of the best planters, some of the most intelligent gentlemen, and some of the best writers of the country.

Why, says Mr. Practical Man, these agricultural writers are all humbugs. Then set them right, Mr. Practical Man; if you know better you are not performing the part of a good citizen to "hide your light under a bushel." You are by far the greatest humbug, if you pretend to be a friend to agriculture, and allow your neighbors to be imposed upon by charlatans.

But, says another plain old gentleman, I am not used to writing for the papers. Well, it don't make any difference, my dear sir. Send in your notions, we will smooth them over, if they need it. Secrets never get out of our sanctum, and you may enjoy your own piece without a suspicion from any quarter. We like plain talk, practical common sense suggestions—like to see a piece with the farmer's grip upon it. Such things carry us out into the fields, we hear the song of birds, the plowman's whistle, smell the freshly turned up soil, the new mown hay, and almost hear the corn grow. As to "book learning," we can get enough of that off our own shelves—but good old fashioned common sense will be much more to the purpose, and we have no doubt, far more agreeable to our readers. Gentlemen, give us the fruits of your experience, and we will put them in frames for your future enjoyment.

THE "IGNORANCE" ACCOUNTED FOR.

A writer in the *Greenville Patriot*, says:

"I invite your attention to the common error of believing that wheat, under some circumstances, *turns*, or is transmuted to chip, cheat or bromus.—The fact that such an opinion exists amongst the farmers of Greenville, in the year 1859, is disgraceful. When I first ascertained that such an absurdity obtained so generally, I was astonished, and for the moment felt disposed to blame our farmers for such *ignorance*."

On looking over our subscription list, we thought we discovered the cause of the benighted condition of the farmers of Greenville District, in the fact that only TWENTY-FIVE are subscribers to the *Farmer and Planter*; and the more significant fact that there is \$200 due to the former editor of this journal, by the people of that benighted District. From this it is very evident that a paper will be of little service to any one unless it is *paid for*.—PUBLISHER.

For the Farmer and Planter.

MR. EDITOR:—We congratulate the public on your prospects of establishing a paper, devoted to the main business of life, and which has been heretofore slighted and neglected by the fostering care of its legitimate parents, the State Legislatures and the Congress.

If agriculture is the daughter of the bond-mother earth, who shall not "henceforth yield unto us her strength?" Still, we should confer honor on our noble parent, and hence the greater necessity for putting into requisition all the appliances of practical science and skill, for recuperating her crippled energies. Her sons expect and deserve aid, from both State and general government, for developing, to the full measure of her capacity, all her resources. Such aids as agricultural and geological surveys, meteorological observations, analyses of soils, plants and manures, and also, last, but not least, agricultural schools and colleges. Give us light, and let your motto be "Onward." BRIAR-PATCH.

THE APIARY.

We open a head in this number of our Journal for the *Bec-Fancier*, and solicit monthly contributions to this department.

The history of the honey-bee has ever been a most interesting one. The moralist, the economist, the poet and the epicure, have all extracted sweets from his hive.

Modern ingenuity has been taxed to the utmost, to protect the bee against the depredations of his relentless enemy, the moth. *Bec* castles, patent traps to catch dollars, under euphonious and complex titles, with avenues and labyrinthine passages, metallic floors, and parvenu entrances, have been advertised as certain preventives, to but little purpose. A moth can go wherever a bee can, and loves his works too well to desert him for any common obstacle. The price of honey, like liberty, is eternal vigilance.

We were very much interested the other day in peeping into a friend's Apiary, to see the busy little fellows loading themselves with rye flour, which he had, with a prudent foresight, placed over their boxes. They seemed to enjoy it wonderfully.

For the Farmer and Planter.

DISEASES OF DOMESTIC ANIMALS.

MR. EDITOR:—The increase in the value of our domestic animals should lead to improved management, and to a more careful study of their diseases and their treatment.

The State Agricultural Society has made one step forward in the right direction, in offering a premium for an essay on the diseases of domestic animals, but it fell far short of its duty, in not offering the premium for each variety, instead of the whole family.

The investment would have been a better one, and the opinions of different individuals would have been drawn out upon the different breeds. One man could not reasonably be expected to be posted up on such subjects by experience, and it is experience we want—not theory. Really, we know very little about the diseases of the horse, hog or cow, and many a fine animal falls a victim to the ignorance which crams down every nostrum suggested by lookers-on.

Did you ever see a horse take sick in a crowd, where any two men agreed upon what ailed him, or what would cure him? Did you ever pick up a newspaper, that had not an infallible remedy for bots, colic, or blind staggers? and how often is the treatment based upon common sense, or how often in one's life-time does a man have the treatment of the case of which he speaks so positively about an infallible cure? Nine times out of ten it is all guess-work—and the worst sort of guessing, at that.

Dr. Broyles, in his essay, has done as well as we had a right to expect of any one man who had not lived one hundred years; but he has fallen short of giving the farmer what he wants—an intelligible, practical guide-book. It smacks, now and then, too much of the profession, and, by all means, he should have avoided those signs of the *Zodiac* (♈ ♉) so incomprehensible to plain people.

In the treatment of many of the diseases, he has not been explicit enough, and in some, the remedies recommended are not equal to the common plantation ones. I will wager to cure a horse of distemper by a good bleeding, a purgative, and an hour's smoking over a pine-top fire, before he will with fever powders, sweet spts. nitre, and boneset.

The Doctor adheres to the opinion of the English farriers, that there is no such disease, properly, as bots. He may be right, but I have certainly seen an expulsion of them followed by an improvement of the animal.

I would rather they were out of the horse, however, and recommend occasional doses of lime, as a preventive.

Founder.—I can beat the Doctor on founder—bleed freely, give 1 lb salts, 1 tablespoonful saltpetre, drench, and tie the horse in a pond or branch of cold water, belly deep—he will come out well in a few hours, and never show a ring upon his hoof, if you take the ball at the first hop.

Swinney.—I differ with Dr. B. as to the symptoms. I have frequently seen a horse with swinney reach his foot out, and rest it flat on the ground, and have seen them tip-toe in gravel.

But there is another inflammation of the shoulder, more serious in its character, and more difficult of cure than swinney. I have seen horses forced to endure great suffering, from treatment for swinney, when the disease was a sprain of the internal muscles, those lying under the shoulder-blade. I have seen a horse, not able to put but three legs to the ground for nine months, tortured by treatment for swinney, when applications at the seat of inflammation would have produced a speedy cure.

In sprain of the shoulder, the horse will evidently suffer extreme pain while moving, and the muscle underneath being inflamed and tender, he will extend it as little as possible. *He will drag his toe along on the ground.* It is in the lifting the foot that the shoulder is principally moved; if the foot be lifted high, let the horse be ever so lame, the shoulder is little, if at all, affected. The lame limb is suffered to bear the weight a much shorter time in this, than in any other kind of lameness. In sprain of the back sinews, it is only when the horse is in motion that the injured parts are put to most pain; the pain is greatest here, when the weight

rests on the limb, and, therefore, there is a peculiar quickness in catching up the limb, in shoulder lameness, the moment the weight is thrown on it.

This is particularly evident when the horse is going down hill, and the injured limb bears an additional portion of the weight. In the stable, too, when the horse points or projects one foot before the other, that foot is usually flat on the ground.

In shoulder lameness, the toe alone rests on the ground. The circumstance that most of all characterizes this affection, is, that when the foot is lifted and then brought considerably forward, the horse will express great pain, which he will not do if the lameness be in the foot or leg.

In sprains of the internal muscles of the shoulder, few local measures can be adopted. The horse should be bled from the vein in the inside of the arm, because the blood is then abstracted more immediately from the inflamed part. Cathartics should be given, and fomentations applied, principally on the inside of the arm, close to the chest; while the horse should be kept *as quiet as possible*. If not speedily removed, a blister should be resorted to.

Scratches.—I have found one or two good rubbings with soft soap and lime, often effect a cure. If the horse must be used, give a good rubbing as above, wash off, and, when dry, paint the parts affected with white lead and oil. The root of the wild arse-nie stewed in lard, and applied as an ointment, I have seen effect wonderful cures, in long standing cases.

Splint and Spavin.—I have seen cures of spavin effected when the horse had been lame for years, by chipping off the bone and cauterizing, but it requires a skillful operator, and experience.

The remarks of Dr. B. upon diseases of the lymphatic or glandular system, are very sensible and to the point.

For “big head,” I have always thought Col. Hampton's remedy the best—“take him out and shoot him.”

For *Fistula*.—I will here give the remedy, *verbatim et literatim*, of “old Lipham,” the best horse doctor it has ever fallen to my lot to meet with:—“Take a full pint of spts. turpentine, put it in a small coffee pot, fix the coffee pot in a pot containing water, so surrounded by rocks as not to be turned over; have it in a *full rage* of boiling, and pour it on to the *part affected*, from the spout of said pot. As soon as the operation is performed, take the snitch off the horse's nose, and lead him into an open lot, and with your whip keep him on foot and off from fence corners, trees or houses, until the sting is over, which will be in twenty or thirty minutes, then turn him loose and give proper time, and the cure is certain, without a sear or discoloring the hair in any way.

N. B. Be certain not to let the spts. turpentine take fire when you are getting it into a full rage, and that you apply it to the *right part*, in proper time, before it *cools*." Same remedy for poll-evil.

Blind Staggers.—On this head Dr. B. has not been sufficiently clear. It has come to be one of the most common and unmanageable diseases of the country, and deserves a most particular investigation.

Annually, scores of fine animals are carried off by it, and we know nothing about the remedy. I have never had but two bad cases under my treatment.—One I cured by bleeding the animal until she fainted, and cutting a + in the forehead, in which I put salt and garlic. The other, I bled in the same way, poured spts. turpentine into the ears, and purged freely. In both cases, I bled every horse freely on the plantation, and gave sulphur in doses of $\frac{1}{2}$ lb, for a week or so, once a week, and I had no other cases. I have given ammonia, and heard of a half dozen infallible cures, but have more faith in bleeding and purging than anything else.

The remarks of Dr. B. on stabling, are very good. Too little attention is paid to this matter by most farmers—but there is much greater danger to be expected from too close, than too open stabling.

The stable may be very open, but if dry and well littered, the horse will be safer than in a close one, in our climate.

CURB.

For the Farmer and Planter.

NOTES BY THE WAYSIDE.

MR. EDITOR:—I have travelled over a goodly portion of the State during the month past, and it may be not altogether unprofitable to make a note of my observations.

Owing to the excessive rains in February and March, the ground was badly prepared for the reception of seed. Oats was sown late, often when the ground was too wet, and followed by high, drying winds and a few weeks dry weather. The oat crop will be in most cases a failure. In many places the rust has made its appearance on the oat again, and the only good oats are those sown in the fall, or early in spring. "Stick a pin there," Mr. Editor.

The wheat crop is "spotted." I have seen very few fields where the grain stood thick enough to ensure a good crop—"drowned out," I take it, by the winter rains, and in some instances destroyed by the fly. The head, however, is pretty well filled, and we will make enough for our uses and some to spare for the war. *Nota Bene*.—All late wheats are becoming more and more uncertain—we must cultivate the *early* varieties, and sow earlier.

I have seen very few barley lots, clover lots or rye pastures in my travels—rather a bad evidence of im-

proving husbandry. The attention of planters seems to be again more closely directed to ditching and horizontalising, but I find different opinions obtain, and although both parties claim to be successful, I noticed the ditches and rows were broken over and the land badly washed.

The stands of corn are generally bad. The wire-worm, or bud-worm—an insect we know very little about, but annually becomes one of our most troublesome enemies—has swept everything before it.—Many planters have ploughed up—planted over, and even now, (June 8th) are replanting. This troublesome insect has heretofore been chiefly confined to stubble, or weed-land, but, during this season, his depredations have been more extensive, and all land has more or less been troubled by him. I have seen very few fields of what I could call *good* corn, and I have seen very few *full* corn-cribs.

The stands of cotton are very fine, the weed is small, and the grass is thick and thrifty—that rainy week in May, everybody says, did the business, together with the botheration of replanting corn so much.

The area planted in cotton does not strike me as above last year—but the best land is devoted to it. I have been struck with the increase in the consumption of guano. It has found its way into almost every neighborhood. Some speak very sanguinely of its beneficial effects, while others doubt. So far as I have been able to judge, it will pay better on cotton than on any other crop, applied in the drill and bedded on, at the rate of 75 and 100 lbs. per acre, and it will pay better on *sandy* lands, than upon clay soils. N. B.—There are several sorts of guano—all No. 1.

Sorghum.—I have noticed very few acres devoted to the cultivation of this valuable plant, and the seedsmen inform me that the demand had diminished, and people were going back to the old millet. I have not lost faith in its virtue, and still believe it is worth more as a forage plant than all the millet family, not excepting the last imported humbug, the "honey-blade grass"—a millet, not the *same*, but not equal to the old German millet, well known for half a century to all grass fanciers in the country. The high price of cotton seems to have crowded out all *patch* work.

Sweet Potatoes.—More area than usual seems to be devoted to this invaluable esculent, and the plants look generally very promising.

Fruits.—Peaches are generally *minus*; there are a few scattering apples and pears—cherries have done very little good, and the curculio, having nothing better to work upon, is rapidly destroying the old-field plums. Strawberries were cut short by the late frosts. Blackberries are promising. The grapes

are doing well, but the Isabella is rotting as badly as ever, and I am sorry to say that the Catawba seems inclined to follow suit. As fruit will be scarce, everybody should try to have a full supply of melons.

AN OLD STAGER.

For the Farmer and Planter.

OLDFIELDS, June 2d.

MR. EDITOR:—No one, I take it, will deny but that a positive advance in the improvement of the breeds of domestic animals has been made in the last few years, at the South. The lordly Durham has given way to the more beautiful Devon, and the more thrifty Ayrshire and Brahmin; the coarse Woburn and Kentucky breeds have been displaced by the easily-kept Essex and Suffolk, and so on.—We have heretofore bred with an eye to form and size, without thinking of adaptation to climate and pasturage.

The idea was preposterous, to think of building up magnificent animals upon broomsedge and wire-grass commons. The rage for fancy stock, which infected everybody some twenty-five years ago, soon ran its course and ended in the general cry of humbug!

The fault was not altogether upon one side. It was a great mistake to suppose that animals, brought to a high degree of perfection by judicious selection and treatment, could be kept so, under our management. Their rapid decline was inevitable. I wish, Mr. Editor, that I could think we had profited by the experience of the past. It is so much the habit of our people to say "let by-gones be by-gones," that they are not apt to lay up their experience as an *investment* for their future benefit.

The demand for all domestic animals is above the supply. So long as this is the case, the price will be so high as to deter many breeders from entering the lists, and, what is worse, to keep up the cry of humbug, and fancy stock.

Unfortunately, it is too much the case that, owing to the high prices of such stock, none but the rich planter or fancy breeder can afford to buy, and as they generally entrust everything to the overseer and the negro, the experiment oftener proves a failure than a success. The very man who should be engaged in the business (the small farmer) is ruled out by the high prices.

Every moderate farmer in the country ought to be able to raise a fine colt or two, a fine bull or cow, hog or sheep, for sale annually; it would pay better, and it would suit him exactly to devote that attention necessary to success.

Stock raising and cotton planting do not work well together, as a general rule, everybody knows, and I should like to see the business in different hands.

I should like to see the small farms, instead of being little cotton plantations, converted into stock-farms, and devoted to the production of grasses, grains and domestic animals. I should like to see a more practical feature introduced—in other words, a mixed husbandry, wherein the interest of one, the farmer, is built up upon the success of the other, the planter, and *vice versa*.

Is there any reason why this should not be done? Is there any reason why a farmer who makes ten bales of cotton should not be able to make five, and at the same time raise a colt or two, a calf or two, and a few fine sheep or hogs, for market?

Is there any reason why he should not have a few clover lots, barley patches, sugar-cane patches, which would economically feed his stock without a continual dependence upon the corn crib?

Where there is a will, there is a way. I know some old fellows who always have fat horses, fine colts, cows and hogs, and owe nobody a dollar!—They have never been run mad upon cotton, and although they have not cut down and worn out their land, and rolled out the cotton-bags, they seem to be about as well contented, and about as well to do in the world, as some of their neighbors, who, after wearing out their lands, moved to the south-west.

"A slow penny is better than a swift shilling" has more merit than it receives. He who takes the world quietly and steadily, fixing his eyes upon the goal, and shaping his course so as to take advantage of all the golden opportunities that cross his path, will, in the end, be a wiser and a better man, if not always as rich a one as he who kills the goose to get the golden egg. Do, Mr. Brown,

TAKE IT EASIER.

For the Farmer and Planter.

CHESS IN WHEAT. (BROMUS SECALINUS.)

MR. EDITOR:—The community in which I live is composed principally of highly intelligent farmers. We often meet together and discuss the subjects in which every one feels most interest—crops, various systems of farming, &c. I have been surprised to find such great differences of opinion on subjects which seem to me should be well understood by every one. With other things, I have noticed the prevalent opinion among my brother farmers, on the subject of Chess in Wheat, to be: that wheat creates chess; that is, the grain of wheat degenerates into chess, under certain circumstances favorable for the metamorphosis.

Well, sir, if the intelligent farmers of my neighborhood have come to this very erroneous opinion, we should infer that many others would take the same view, and will not, therefore, take the proper precautions against cheats. I wish to call the attention of all wheat growers, who now

constitute a large portion of our upper and western districts, to this subject, and have it sifted and set at rest, as it should have been done long ago. So long as the wheat grower believes that wheat degenerates into chess, he will be careless in the selection of his seed, and will, under circumstances favorable to the spread of chess, have his fields polluted with this pest, which, with cockle, has, since the Biblical ages, been the tares in the wheat. Cheat or chess is one of the Bromo grasses, of the family Darnel, Spett or Rye grasses, which differs in the various localities in which it is found. With us it takes the form of chess and sturday. This plant, being a hardier one than wheat, is often left in low wet lands, when the wheat is thrown out by frost and drowned by wet; whereas, in high dry lands, wheat shades it down, so that we do not notice it. Nothing seems to eat it in my observation—neither animal or fowls. Many are of the opinion that it is produced by grazing, which is wrong, as nothing will eat it. Chess will grow year after year in the same land, and, like other grass, the seed will lie dormant for many years, when buried too deep to vegetate; but plow the mellow soil, and lo! here it comes, like crab-grass. Cheat is confined to late wheat, generally, as the Mogul, Gimlet, &c., because it ripens at the same time, and every seed of it, cast with the sown wheat, vegetates. In black-jack lands it will take that hardy, and, for those lands, excellent wheat, called Gimlet, almost certainly, in the second and third year, from the fact that it flourishes well and will remain in the soil for years. This being the case, it behooves you, brother farmers, who may read this, to select your seed with care, and beware how you sow cheat when you expect to reap wheat, for many of you have been sorely disappointed, when going into your golden harvests, to find but three stalks of wheat to two of cheat. May wheat is exempt, or only accidental stalks may be found, from the fact that we cut May wheat before chess ripens, thus it cannot spread.

Mr. Editor, you called urgently in your last *Farmer and Planter* for contributions on all subjects.—I send this, if you deem it worthy insert it. Let every man contribute, in the spirit of love and friendship, and aim to elicit the truth. We want light on many subjects, and to gain it we must communicate with one another; then your already excellent paper will bear light on its pages, and pour its fruit-bearing rays over all the borders of our beloved land.

May 30th, 1859.

E. T. A.

Sydney Smith says, "We are happier for life, for having made once an agreeable tour, or lived for any length of time with pleasant people."

The vicious obey their passions, as slaves do their masters.

COFFEE, ITS COST AND CULTURE.

It is believed by many that coffee can be cultivated in some of our Southern States as successfully as in Brazil, Java, and Jamaica; if so, it is high time that some of our planters were entering upon its culture, as it costs our country no less than \$15,500,000 annually for the beans of this plant.

The coffee-tree lives to a great age, provided that the land is kept well drained. The trees begin to bear when three years old, and is at its full bearing when seven years old. The tree is allowed to grow in height from six to seven feet; the top branches are pruned off when the tree is five years old, so that by the time it is seven it resembles a spread umbrella. Each branch droops downwards, and thus gives the pickers a good chance to pick the berry. The coffee tree in Brazil bears two crops each year, the large crop in the Spring, and the small one in the Fall. The first crop is picked when the berry is red, resembling a cherry. The second crop is in general small, and allowed to remain on the tree until fully ripe and dry. This crop, cured in the husk, is far superior in quality, and is called "pearl coffee."—The blossom is beautiful, small and tender. It remains on the tree from three to four days. If the weather is warm, with showers, during those few days, the crop is sure; if cool at nights, it often fails. When the berry is taken home from the field it is carried to a mill house. The mill consists of three small rollers. The berry is put into a hopper, and a constant stream of water falls on the rollers during the time the mill is at work. By this process the outside hull is taken off and the berry is separate from it, and the coffee falls into a brick tank, where it is washed perfectly clean, and then put on a place covered with tile or brick raised in the centre that the water may drain. It is then taken to the curing loft, where it is turned four times a day, until the husk is crisp and dry. Then by putting it through large fanners the inside hull comes off, and leaves the berry ready for hand-picking for market.—*Scientific American*.

BOX EDGING.—Few people, except professed gardeners, know how this handsome border ornament ought to be planted. It is usually stuck in a few inches and left straggling on the top of the ground, with three or four times as much *top*, and three or four times less *bottom*, than it ought to have. Box grows nearly as well from the branches as the roots. Now, the trench in which the edging is to be planted should be full spade deep on the border side, being a few inches shallower on the alley side—the soil should be made fine—and the box inserted to the bottom of the trench, packed in tightly with soil, leaving only from one-and-a-half to two-and-a-half inches out of ground. There will be no danger of its not growing, or of producing full foliage at the ground. Of course no one would think of planting box without a *line*.

Trimming box edging is rarely performed either skilfully or judiciously. Instead of cutting off the top squarely, and below the preceding year's growth, let it be pruned to an angle, like the letter A, taking care not to cut below the new growth, and you will, through the whole season, have a beautifully green, thrifty edging.—*Germantown Telegraph*.

SPONGE CAKE.—Ten eggs, one pound of sugar, three and a half pounds of flour.

Gorticultural and Pomological.

WILLIAM SUMMER, EDITOR.

WORK FOR THE MONTH.

In the garden, very little sowing can be done, but the soil should be frequently stirred, and the ground kept clean of weeds. Don't spare the hoe, but use it freely, and daily, if necessary, until you have exterminated every weed within your garden. Do not permit any to go to seed, but as they are taken up, make a pile in some corner, and, with a little lime, you will form a rich compost heap, that will be of great use to future crops.

Cabbages, and such other vegetables as may require it, should now be regularly hoed; and do not forget when vegetation is in a forward state, that by keeping the earth open and free to the operation of the atmosphere, you will promote their growth.

Sow a few *Large Early York* and *Battarsea Cabbages*, the close of this month; they will form their heads in the Fall, and in England these varieties are often used for heading up in Autumn. South of this, it would be advisable to give them a trial for this purpose. Plant out the close of this month your *Late Flat Dutch Cabbage* plants, for Winter use.

Sow *Early Flat Dutch Turnips* for early use, the strap-leaved variety is the best. The *Early Purple-Top* succeeds this variety, and at the close of the month, put in a portion of your crops of *Turnips* for table use. The best flavored variety is the *Yellow Finland*, *Yellow Stone*, and *Robson's Golden Ball*—but for the general crop, the *Large White Norfolk*, *Large White Dutch*, *Large Globe* are the best, though not so fine flavored as the yellow turnips. *Rutabagas* should be put in by the 20th. (See an article in the June No.) The best variety for our climate is *Skirving's Improved*. With this you keep up a succession until late in Spring.

Plant *Cucumbers* for pickling and Fall use. The *Early Bush* is the best for pickles, and may be planted even as late as the middle of next month. *Melons* for mango pickles, *Early Corn* for a succession of late roasting ears.

Keep down the grass and weeds in your *Strawberry* beds.

In the *Flower* garden *Dahlias* will require to be neatly tied up, watered once a week in dry weather, and mulched. The *Hybrid Perpetual*, *Bourbon*, and other constant blooming roses should have their long shoots cut back, to three or four buds, early in this month: and the soil around them receive a good dressing of manure and thorough digging, when they will bloom with the greatest perfection in the Fall, and continue till after frost.

NEW SERIES, VOL. I.—28

PRESERVING FRUIT BY HERMETICAL SEALING.

We are pleased to see that the old practice of making large quantities of preserves in every family, is declining, and sweetmeats are giving place to a more simple, healthful, and delicious article, namely, fresh fruit preserved in its natural state, by perfectly excluding the air.

The tin cans, now so generally in use, do this effectually—and we have used SPRATT'S Can, manufactured by WELLS & PREVOST, New York, for years, with success. But all tin cans are liable to the objection of imparting flavor to the fruit, actually poisonous in many instances, as that of tomatoes, apples and strawberries. Peaches are less affected by tin than any other fruit, and the tin cans, when new and properly cleansed, can be used for several years for putting up this fruit. The public are greatly indebted to Mr. T. G. YEOMANS, of Walworth, N. Y., for the simple and most excellent Fruit Bottle, which he has manufactured at a reasonable price. It possesses many important advantages over every other can or jar brought to public notice; being made of glass, it will not corrode or poison the fruit; and being transparent, the condition of the fruit can at all times be seen, while they are so easily cleansed that they are as good as new for succeeding years. They are made with the mouth so constructed, with a jog in the neck, that the cork cannot be forced into the bottle by the atmospheric pressure on it, caused by the cooling and consequent contraction of the fruit in the bottle; and with a neck of such length that the contraction will not bring the fruit below the neck. They are cheaper than any other bottle, jar, or can of merit, and within the reach of all.

We detest *humbugging* in any shape it appears, and during the last year, Prof. DAYTON'S Exhaustor was sold to many, and in almost every instance, those who purchased and used it were disappointed, and failed in putting up any fruit fit for use. The chief agent in the work of preservation is *heat*. If after the application of heat for a certain time (by which process the air is expelled,) the article be sealed, hermetically, it will remain unchanged for an indefinite period. And we have seen fruit put up in common stone jars, covered with pieces of cotton jeans, dipped in melted rosin and beeswax to make it air-tight, and placed over the mouth, and a cover of wood fitted in on the common lids so rudely made at our potteries; but the glazing of these jars, and those of the Kaolin manufactory, are so imperfect that we would not advise the attempt to be made of putting up fruit in them for preservation, when so cheap and desirable a bottle can be obtained, as those of Mr. YEOMANS'. We refer you to his advertisement in this number.

We will briefly describe the method of putting up

fruit, for the information of those who may not be familiar with it.

Cook or stew the fruit, with water enough only to keep from burning it, until it is cooked through, keeping it well covered while cooking. We had our supply of fruit put up in this way, and the cans filled quite full, before the caps were applied, last season; and the result was, that in every instance the fruit was of excellent flavor, and superior to that boiled in the tin cans. Sugar may be used at the time of cooking, or omitted until the can or bottle is opened for use, which last we prefer. All ripe fruit preserved in this way will be found as fresh in the Winter season as if just taken from the tree and stewed. In the glass bottles tomatoes can be put up for table use equally as good as in their season.

We observed at the exhibition of our last State Fair, some glass jars with tomatoes, put up by Mrs. THOS. P. WALKER, of this city, and, as one of the Committee, we moved a premium to be awarded to Mrs. W., as they were in a most perfect state of preservation; but, in the report by the Chairman, we observed it was omitted; and we would here say to our good housewives, that they should contribute freely their various articles to the Household Department, at the next Fair, as we are assured by Col. R. J. GAGE, the Secretary, that it will be assigned to several Committees, who will do them justice—and amongst them we trust they will appoint several of our worthy housewives, who understand these things much better than gentlemen. We know the good ladies will cheerfully give us their aid in making the proper decisions.

ANSWERS TO INTERROGATORIES.

A correspondent, "G. M. I.," of Alston, sends us the following interrogatories, and requests the favor of a reply through the *Farmer and Planter*. While we do so with great pleasure, we would say to other correspondents that we will, at all times, cheerfully give such information as we possess, in our department, and invite inquiries:

1st. "I wish to know the best means of destroying the Peach-worm or grub, that does so much injury to young trees. They attack the trees near the surface of the earth."

The *Peach-worm* or borer (*Aegeria exitiosa*) cuts into the bark (never into the wood) just below the surface of the ground, and if badly or wholly girdled, the tree dies. Its presence is indicated by the gum exuding at the root, mixed with excrementous matter, resembling saw-dust. It is very easily destroyed by scraping away the earth at the foot of the trunk, and following the worm to the end of the hole, with a knife, beneath the thin shell of bark under cover of which it extends its depredations.—If an orchard is examined once in early Spring, and

once in Summer, they can be subdued. But to exclude the insect, as a means of preventive, heap round each tree half a peck of ashes, in Spring, allowing it to remain until Autumn, when, spread beneath the tree, it forms a good manure. This remedy, in most cases, has proven quite effectual. It will, in all cases, lessen the labor of extermination with the knife. *Gas tar* has been suggested as a remedy.—We have great faith that this will prove effectual.—After clearing, apply it to the wounded part, with a painter's brush. The perfect insect of the peach worm is a four-winged moth, much resembling a wasp. It deposits its minute eggs late in the Spring and through Summer, at the foot of the tree, which soon hatch, and the larvæ or worms enter the bark. To prevent, the ashes are applied. A sheath made of hardware paper, about eight inches in length, applied to the stem of the tree, will prove effectual, if taken away in Autumn.

2d. "Will you please state the proper season of the year when young Peach and Apple trees should be pruned, and should the pruning be continued through consecutive years?"

The best time for pruning the Peach, in our climate, is January. They require shortening back annually, about one-half their growth, to form fine trees, and to produce good fruit. They will require this attention for years. Thin out the branches and limbs when too thick. The present month is an excellent time for pruning young Apple trees. The wounds will heal over the same season. They may also be pruned in January. Take out the limbs that are likely to cross each other in a few years.

3d. "Should the runners on Strawberries be kept out or pulled off?"

In the English and Northern works the runners are advised to be kept down, and treated precisely as weeds. This, in a moist locality, will do well here, and abundant crops will follow; but we have found in our experience, which has been for years, that if we keep down the grass and weeds through Summer and Autumn, and take out the runners in February, dress up the beds with leached ashes and wood-earth, or super-phosphate, we never fail in having an abundant crop. When the runners are kept down we have frequently had our old plants to die out.

4th. "Do you plant the staminate and pistalates on the same bed or separate beds?"

We plant with the pistalate varieties, every eighth row with a staminate. The Hovey, Walker, Burr's New Pine, Primordean, being pistalates, require a good staminate variety to impregnate them. We have observed that a Hovey bed next adjoining a bed of Wilson's Albany, which is hermaphrodite, has been very productive. This bed had no staminates on it. The Albany has been in fruit from the

6th of April, and a good mess of berries has been picked to-day, 15th June.

In our "Essay on Pomology," which we hope to commence, in the next number, the inquiries of our esteemed correspondent will be more fully answered.

For the Farmer and Planter.

HAIL-STORMS AND THE COOLING EFFECTS OF ICE.

MR. EDITOR:—The fact that the unusual number of "cool terms" which we have had this Spring, have been generally preceded by destructive hail-storms, has led me to a few random reflections. Of course, every one knows, that the existence of a large mass of ice on the surface of the earth, must necessarily exercise a refrigerating influence on the surrounding atmosphere. But, perhaps, there are not many persons who have reflected on the *extent* of this influence, or who have any very definite idea of the *adequacy* of this cause to account for these sudden depressions of temperature.

It is a well-established fact, that even in mid-summer, when the European steamers come in the vicinity of the *icebergs*, which the oceanic currents bring to warmer latitudes, an intense degree of cold is experienced at an immense distance from the icy masses. It is also well known, that every five or six years, enormous *ice-fields* drift from Greenland to the west coast of Iceland. When the unhappy Icelanders see these dreary fields approach, they give up their harvests for lost, for experience has taught them that their crops cannot mature under the influence of such refrigerating causes. The fish also forsake the shore, the water being cooled to too low a temperature for them. In this case, the cause is *persistent*, or, at least, endures for several months, so that its disastrous effects extend throughout the whole growing season of the Icelandic summer. The precipitation of icy masses from the superior regions of the atmosphere during our hail-storms, is a phenomenon more *transient*; but when the quantity of ice is considerable, it must exercise a cooling influence on the air, for several consecutive days.—Doubtless, during many hail-storms, *cool currents of air* are brought from above or from higher latitudes, which may produce great changes in the weather, in some measure irrespective of the influence of the hail. In fact, such changes do take place *without* any fall of ice from the atmosphere. But the point to which I wish to direct attention, is the *extent of the influence of melting ice as a cause of refrigeration of the air*.

Numerous experiments of the most trust worthy physical philosophers concur in showing that the *melting of one pound of ice requires as much heat as would be needed to raise the temperature of one hundred and forty-two pounds of water one degree of Fahrenheit*.

Hence, in the liquefaction of every pound of ice, exactly this amount of heat must necessarily be *abstracted* or *absorbed* from surrounding matter, and thereby producing an enormous refrigeration of the lower strata of the atmosphere. In order to form an adequate conception of the *extent* of this cooling influence, it is necessary to bear in mind the fact, that the *capacity for heat*, or *specific heat* of air, is less than *one-fourth that of water* (more accurately 0.2379, water being *unity*); so that *the thawing of one pound of ice would cool nearly five hundred and ninety-seven pounds of air one degree of Fahrenheit*. And, inasmuch as at a temperature of 75° Fahrenheit, and under the usual pressure of thirty inches of mercury, it requires about thirteen and a half cubic feet of air to weigh one pound avoirdupois, it follows, *that the melting of one pound of ice absorbs enough heat to cool about 8020 cubic feet of air through one degree on Fahrenheit's scale*. Hence, it appears, that the liquefaction of every pound of ice, would cool 1,604 cubic feet of air from 80 to 75° Fahrenheit; that is, through a range of *five degrees of temperature*. A room 18 by 16 feet, with a ceiling 10 feet high, will contain 2880 cubic feet of air; hence, the melting of a little more than 1½ pounds of ice, would be sufficient to reduce the temperature of the contained air *five degrees Fahrenheit*; so that if the temperature was 80° at the beginning of the experiment, it would fall to 75° at its conclusion.

Of course, it will be understood, that in the foregoing physical reasoning, I have assumed, that the *whole* of the frigorific action of the melting ice has been exercised exclusively on the air; that *all* of the heat required for its thawing, has been abstracted from the air. Indeed, in many cases, where the surrounding air is interchanged with sufficient promptness, this assumption may be considered as practically true. In the case of a brisk wind blowing over a bed of hail-stones, most of the heat required for liquefaction must be abstracted from the superincumbent atmosphere, thus carrying its cooling influence to distant regions.

When a mass of ice is allowed to melt in a room, the air of the chamber *does not* experience an amount of reduction of temperature commensurate with the results of calculation. This discrepancy between the theoretical and the observed results, may be readily traced to *two* causes, which are perfectly adequate to explain it in the most satisfactory manner. In the *first place*, the strata of air around the mass of ice, as fast as they are cooled, fall to the floor, where they are rapidly carried off by means of the ordinary arrangements for ventilation. In other words, the experiment is *not a fair one*: the refrigerating action is *not confined* to the atmosphere of the chamber. And in the *second place*, the air around

the icy mass, is usually so *still*, that the cooling action is carried to an extent sufficient to produce a *condensation* of aqueous vapor. This process develops an enormous amount of heat, so that the legitimate refrigerating effects of liquefaction are, in a great measure, *counteracted* by the inverse heat-producing process of condensation. The *cold fogs* which surround the icebergs which oceanic currents bring into warmer latitudes, as well as those which invest the shores of Iceland, when the Greenland ice-fields are stranded on their western coast, are produced by the condensation of aqueous vapor, and, to some extent, counteract the full cooling effects of these huge magazines of cold.

In the thawing of beds of hail-stones, I have shown that nearly the whole frigorific influence is exercised on the atmosphere as it is wafted along by winds; and when it is borne in mind, that *hundreds of thousands of tons of ice*, in the form of hail, are frequently precipitated from the atmosphere, some idea may be formed of the degree and extent of depression of the temperature, which must attend its liquefaction.

“GRANDO.”

TO CORRESPONDENTS.

We have received some very interesting agricultural articles from correspondents, but are compelled to delay their publication until our next issue, in consequence of their arriving too late for this.—We are much pleased to find our intelligent farmers and planters are waking up to assist us in the good cause. They will always be welcome to our columns. We, however, would inform them that unless their favors reach us by the 10th of the month, it will be impossible for us to insert them in the following issue, as the time necessary to press, fold, stitch and cover our large edition compels us to have the printing completed at least one week in advance of the time for issuing.

COFFEE AS A DEODORISER.—Now that the “sporting season” has again come in, we beg to remind sportsmen, and others, that fresh-ground coffee is a perfect and safe deodoriser; a sprinkling will keep game fresh and sweet for several days. Clean your game—that is wipe off the blood—cover the wounded parts with absorbent paper, wrap up the heads, and then sprinkle ground coffee over and amongst the feathers or fur, as the case may be; pack up carefully, and the game will be preserved fresh and sweet in the most unfavorable weather. Game sent open and loose cannot, of course, be treated in this manner; but all game packed in boxes or hampers may be deodorised as described. A tea-spoonful of coffee is enough for a brace of birds, and in this proportion for more or larger game. Fresh-ground coffee may be used with advantage in a sick room; a few spoonfuls spread and exposed on a plate, and burned by a red hot iron, is a safe and pleasant fumigator.—*Builder*.

ADVICE ABOUT TEETH.

An eminent surgeon-dentist, residing in London, gives the following useful hints about the care of teeth. They are simple, timely, and deserve attention:

In the first place, the teeth should be fairly used. By this I mean, not made to perform the duties of crackers for nuts, experimented on to ascertain their strength, or, by ladies, to rival scissors in cutting thread; for, rest assured, in every case, more particularly the last, the party having recourse to such practices, will surely some day rue them; the teeth, so unwittingly injured, being always first to part company with their fellows. Those who indulge in such or similar habits, may truly be called the dentist's friends. Cleanliness is absolutely essential for the preservation of the teeth, and they should be well brushed at least morning and evening, that any feculence which may be attached to them, either during sleep from the stomach, or by day from meals, may not be allowed permanently to adhere, causing, firstly, discoloration, then tartar, and subsequently, if I may so express myself, undermining the constitution of one or more, as from their position they may be more or less liable to corrosion. In order that the teeth should look natural, that is, retain their natural color, a dentrifice, free from the smallest particle of acid, should be used at the matin hour, and the mouth rinsed with tepid water, for extremes of heat and cold are most highly prejudicial not only to their color, but also to their durability; and I know no method so simple of converting a really useful and ornamental set into one of pain and subsequent extinction, than the use of washing in either one or the other. The person who habituates him or herself, to any extent, to hot soup, tea, or other drinks, assuredly rivals the friend to the dentist just named. Brushes for the teeth should be of medium substance of bristle, and those made on what is called the penetrating principle are best. I would also observe that children at an early age, should be instructed in the use of a tooth-brush, and taught the value and importance of the teeth, in order to inculcate habits of cleanliness, and a due appreciation of the ornaments of the mouth. A brush properly selected (not too hard) may be used by children of five years of age, every morning; and by being part and parcel of the general ablution, and thus directing habitual attention to the teeth, a useful and cleanly habit will be engendered, which will probably insure for them proper care through life.

INDUSTRY.—Toil is the price of sleep and appetite, of health and enjoyment. The very necessity which overcomes our natural sloth, is a blessing. The world does not contain a brier or thorn that divine mercy could have spared. We are happier with the sterility which we can overcome by industry, than we could be with the most spontaneous and unbounded profusion. The body and the mind are improved by the toil that fatigues them; that toil is a thousand times rewarded by the pleasure it bestows. Its enjoyments are peculiar; no wealth can touch them.

“Charley, my dear,” said a loving mother to her hopeful son just budded into breeches, “Charley, my dear, come here and get some candy.” “I guess I won't mind now, mother,” replied Charley, “I've got in some tobacco.”

PLEASANT HOMES.

The homes of America will not become what they should be, until a true idea of life shall become more widely implanted. The worship of the dollar does more to degrade American homes than anything else—than all things else. The chief end of life is to gather gold, and that gold is counted lost which hangs a picture on the wall, which purchases flowers for the yard, which buys a toy or book for the eager hand of childhood. Is this the whole of human life? Then it is a mean, meagre, and most undesirable thing. A child will go forth from a stall, glad to find free air and a wider pasture. The influence of such a home upon him in after life, will be just none at all, or nothing good. Thousands are rushing from homes like these every year. They crowd into cities.—They crowd into villages. They swarm into all places where life is clothed with a higher significance; and the old shell of home is deserted by every bird as soon as it can fly. Ancestral homesteads and patrimonial acres have no sacredness; and when the father and mother die, the stranger's money and the stranger's presence obliterate associations that should be among the most sacred of all things.

I would have you build up for yourselves and for your children a home that will never be lightly parted with—a home which will be to all whose lives have been associated with it, the most interesting and precious spot on earth. I would have that home the abode of dignity, propriety, beauty, grace, love, genial fellowship, and happy associations. Out from such a home I would have good influences flow into neighborhoods. In such a home I would see ambition taking root, and receiving all generous culture. And then I would see you, young husband and young wife, happy. Do not deprive yourselves of such influences as will come through an institution like this. No money can pay you for such a deprivation. No circumstances but those of utter poverty can justify you in denying these influences to your children.—*Timothy Titcomb.*

ATTENTION TO ORCHARDS.—Clean out your orchards. Let no branches lie scattered around. If in crops, let the tillage be thorough and clean. In plowing near the tree be careful not to strike deep enough to lacerate the small roots and fibres. An orchard should be tended with a *cultivator* rather than a plow, and the space immediately about the tree should be worked with a hoe. Look to the fence corners, and grub out all bushes, briars and weeds. A fine orchard with such a ruffle around it is like a handsome woman with dirty ears and neck.

Grub up suckers, and clear off from large and well established trees all side-shoots. After a tree is three inches in diameter through the stem, it may be kept entirely free of side-shoots. But young trees are much assisted in every respect, except appearance, by letting brush grow the whole length of their stem, only pinching off the ends of the whips, if they grow too rampantly. In this way the leaves afford great strength to the trunk, and prevent its being spindling or weak-fibred.

Examine grafts, if any have been put in. See if the wax excludes the air entirely; rub out all shoots which threaten to overgrow and exhaust the graft; if it is growing too strongly, it must be supported, or it will blow out in some high wind.—*Fruit, Flowers and Farming.*

WOMAN IN THE GARDEN.

Much in these days is said about the sphere of women. Of this vexed question, we have nothing now to say. The culture of the soil, the body and the soul, are our themes. Rich soils, healthy bodies, pure, cultivated souls, these are what we are aiming at. And to this end we recommend that every country woman have a garden that she keep and dress with her own hand, or at least, that she supervise and manage. The culture of strawberries, raspberries, blackberries, gooseberries, currants and garden vegetables are as delightful and profitable as anything in which woman can engage. She may sprinkle her garden well with flowers. All the better for that. A snowball in this corner, a rose in that, a dahlia bed there, and a moss border here, will not be out of place. Only let the substantial and useful constitute the chief part. A touch of the ornate, like a ribbon on a good bonnet, is not in the least objectionable. In all the schools the girls study botany. In all families the women ought to practice botany. It is healthful, pleasing and useful. The principles of horticulture are the principles of botany, put into practice. Farmers study agriculture, why should not their wives and daughters study horticulture? If any employment is feminine, it would seem that this is. If any is healthy this must be. If any is pleasurable none can be more so than this. A rich bed of strawberries, a bush of blackberries or currants, a border of flowers produced by one's own hand, what can well afford a more rational satisfaction? We say to all our country sisters, have a garden, if it is only a small one, and do your best with it. Plant it with what pleases you best, with a good variety, and see what you can do with it. What woman cannot raise beets, tomatoes, melons, onions, lettuce, and furnish her own table with them? What woman cannot plant a raspberry bush, or currant, or gooseberry, and tend it well? Come, good women, study your health, your usefulness and happiness, and your children's also.—*Valley Farmer.*

"WE LIVE IN DEEDS, NOT YEARS."—A pleasant, cheerful, lively, generous, charitable-minded woman is never old. Her heart is as young at sixty or seventy as it was at eighteen or twenty; and they who are old at sixty or seventy, are not made old by time. They are made old by the ravages of passion and feelings of an unsocial, and ungenerous nature, which have cankered their minds, wrinkled their spirits, and withered their souls. They are made old by envy, by jealousy, by hatred, by suspicions, by uncharitable feelings; by slander, scandalizing, ill-bred habits; which, if they avoid, they preserve their youth to the very last, so that the child shall die, as the Scriptures say, a hundred years old. There are many old women who pride themselves on being eighteen or twenty. Pride is an old passion, and vanity is gray as the mountains. There are old women that have much of either.—They are dry, heartless, dull, cold, indifferent. They want the well-spring of youthful affection, which is always cheerful, always active, always engaged in some labor of love which is calculated to promote and distribute enjoyment. There is an old age of the heart, which is possessed by many who have no suspicion that there is any thing old about them; and there is a youth which never grows old, a Love who is ever a boy, a Psyche who is ever a girl.

From the Southern Planter.

OSAGE ORANGE HEDGES.

The inquiry that naturally will present itself to the mind of every farmer is, will it be of advantage to me to commence making Osage Orange Hedge.—Those who have stone for fencing, will hardly deem it advisable, and those who have mountain land for timber, may not consider it economy to commence to much extent. But those whose land now in timber is tillable land, may well conclude that good economy would advise the clearing more of it, and bringing it under cultivation. In this way large additions may be made to our agricultural products, and of course to our profits. From the confidence asserted by the hedge growers of the West, in the plan recommended by them, and looking at the philosophy of the prescribed mode, there is strong ground for believing that it will succeed here, though in many places it may take rather longer time to make a sufficient hedge. Our own experience satisfies us, that it will grow here in almost any soil not too wet. Some may object on account of the protection needed when young; but the prudent farmer may so arrange his crops, that he may have his young hedge in fields under cultivation where stock is not allowed. For instance: suppose a hedge was planted between two fields, one of which was to put in corn the same spring, then move the fence on to the other side, and leave it in that field, then put the corn land in wheat that fall, or leave it for corn the second year, in either case put it in wheat for the third year, then move the fence over the hedge on to the other side, and commence a like cultivation of the opposite field, that would give it a protection of four or five years, sufficient to give it a height and strength that would make it secure from stock, and that too, without any additional fencing or expense, except moving the fence over the hedge, which would be a small matter. After the hedge is considered complete, it will require regular attention to keep it in proper bounds and not allow it to grow too high; this, however, will be much less labor, than that now employed to keep our fences in repair. Where the hedge has been properly attended to, and the growth diffused over a large space, there is much less liability of any shoots making a rampant growth, and are easier kept in bounds. A man with a suitable instrument, it is asserted, can trim from half a mile to a mile of such hedge a day. And this being all the labor necessary to keep them in condition, is certainly a great saving of labor over present practice, to say nothing of the capital necessary in keeping up timbered lands. There could be nothing introduced into the farm, that would add more beauty to it, than to have all the divisions of it bounded by good hedges. And the certainty with which we may expect to obtain coal for fuel, and its cheapness, will prevent the necessity of keeping much land in timber for that purpose.

YARDLEY TAYLOR.

FALL PLOWING FOR ROOTS.—John Howatt, of Kentucky, says, that in Great Britain, the plowing of land in the Fall, that it may thus be exposed to the action of the frosts and of the atmosphere, is considered as good as seven tons of additional manure in the growth of turnip and carrot crops. If that be so in the old country, it must be much more so here, where the Winter is longer and the frosts are more severe and penetrate more deeply into the soil.—*Ex.*

WHITEWASHING.

There is nothing, perhaps, which contributes more decidedly to the healthiness of a homestead than whitewash. It is a cheap article, and any one who can lift a brush can put it on. Fences and rough siding, as well as the inside of the tie-ups, sheds and other out-buildings, and also the walls and ceilings of the cellars, should annually be painted over with a good coat of whitewash. The Spring is the most eligible season for the application, as there is generally sufficient leisure at that time before Spring's work comes on, and as the disinfecting and deodorizing action of the lime will tend to prevent those unhealthy miasmas which are generated around most dwellings, by the decay of vegetable matter, and the heat of the vernal and Summer sun.

White walls, and long lines of white fences gleaming amid luxuriant and embowering foliage, give to a farm establishment an appearance of neatness and rural elegance and comfort, indescribably attractive to the man of taste, and can in no way be so effectually and economically secured as by giving them a few coats of whitewash. The ceilings of bed-rooms, cookeries, and wash-rooms, should also be frequently whitewashed. If the walls are not papered, the brush should pass over them likewise. The lime will not only tend to sweeten the air and prevent epidemical diseases, but fill up the thousand imperceptible cracks which always exist in plastering, and through which more cold air will find its way in a windy Winter's day, than can be neutralized by many an armful of hickory, maple or white oak.

The whitewashing of cattle and horse stalls, as well as the inside of hog cotes and heneries, not only renders them more healthy, but prevents the animals and fowls from being infested with troublesome and filthy vermin.—*N. E. Farmer.*

RICH MILK—WHO CAN BEAT IT?—W. H. Robinson, of Irondequoit, informs us that he has a three-year-old heifer, which will come in about the 1st of next April. She now gives (Dec. 10) four quarts of milk per day. Nine quarts of this milk were churned, and produced 2 lbs. 10 oz. of butter, or $4\frac{2}{3}$ oz. from one quart of milk. Another trial was made the next week, when 10 quarts of milk produced 3 lbs. of butter, or 4 4-5 oz. butter from a quart of milk. This, we believe, is the largest yield of butter, from a given quantity of milk, on record. Can any of the readers of the *Genesee Farmer* beat this?

Mr. Buckminster, of the *Massachusetts Ploughman*, states that four quarts of milk from his Devon heifers, give one pound of butter; Mr. Prentice, of Albany, N. Y., states, in the *Country Gentleman*, that his Ayrshires produce one pound of butter from six quarts of milk; and Mr. Norton, of Farmington, Ct., has Alderneys, that beat this somewhat. The general average, from good dairies, is about a pound of butter from fifteen quarts of milk.

The heifer of Mr. Robinson is part Devon, Durham, and native. She was fed on clover hay, and had in addition about half a bushel of potatoes per day. Mr. R. thinks no other roots will furnish so much better in the Winter, as potatoes. The butter produced by this heifer is as yellow, and of as good flavor, as can be made at any season of the year.—*Genesee Farmer.*

There is only one objection to people who "mean well," and that is, they never can spare time to carry out their meaning.

WEEDS.

There are very few gardens where an abundant supply of weeds may not be found; these are cultivated without fail, as they require little attention, only asking to be let alone that they may flourish. From the startling records of recent experiments, we have found that the production of weeds by seed, is infinitely greater than their greatest enemy ever supposed. We have further discovered that in addition to the supply of self-sown seeds, with which our own garden is annually favored, an additional stock is disseminated with the grass seeds sown on the lawn, and unless great care be taken, with many other garden seeds used during the season.

It is equally certain that vigilance and assiduity on our own part, will not secure us from these pests, for should we have the misfortune to have for our neighbor a *friend of weeds*, one who would never think of stepping out of his way to destroy the Canada thistle or great dock, with their myriads of light winged progeny, then we shall unquestionably be favored with an abundant supply, should our own exhibit any sign of scantiness. Much has been said about some legislative interference to meet this evil, but no such, we presume, can be hoped for. Each, however, may destroy many species of weeds which are not easy of dissemination, and thus do much to secure to his crops the food provided for them. Now is the season to destroy the germ before the seed matures. One plant of dock or thistle, cut down or exterminated at this season, is a valuable achievement. Keep the hoes sharp. And take care not to return the half-decayed roots again to the soil, in the form of compost.

LABOR.—There is a vast amount of foolish discussion and false sentiment in regard to the respectability of labor and professions. Every industrial pursuit that is honest and promotive of human well-being, is respectable, honorable and dignified. The chimney-sweeper is only a vulgar laborer, and his calling a mean one, when he sinks below and demeans his toil. Let him pursue his work steadily and earnestly, and he is entitled to as much respect as the telescope maker. The profession of labor has no essential merit in itself, beyond being more or less productive; the merit belongs entirely to the manner of its pursuit.

Some pride themselves on living above and independent of labor, scorning all its pursuits as low and ignoble. Such are drones, who eat what they do not earn, and it is sufficient punishment for them that they can see nothing in their desire or destiny but an utter antipode to the generally revealed character of God and man. Others pride themselves upon the exclusiveness or aristocracy of a profession, as though honor and dignity came to labor from isolation instead of usefulness. These would call labor honorable, in proportion as they could handle it without soiling their gloves. It is hard to say which of the two is most vulgar, he who decries and scorns all labor that is soiled or soiling—all common every-day toil—or he who values labor only as it is begrimed with dirt, and turns up his nose at the man who works with hands and face cleaner than his own. Both are immensely vulgar, and both will have to learn much before they truly understand the nature and dignity of honest labor.—*New Jersey Farmer*.

What post is never a very welcome guest? Impost.

THE AGRICULTURAL PRESS.

Few persons appreciate the benefits of a well-conducted agricultural journal to the country whose resources it is designed to develop. The cant phrase, tinged with a sneer, "*book farming*," is still sufficiently prevalent to show that agricultural literature has not yet accomplished its work. Still it has done much, and its successes annually multiply.

The *American Farmer*, published weekly, at Baltimore, under the auspices of John S. Skinner; the *New England Farmer*, also a weekly, by Thomas G. Fessenden, of Boston; and the *New York Farmer and Horticultural Review*, by Samuel Fleet; these were all the agricultural journals in existence, thirty years ago. Even as late as within the last twenty-five years, all the agricultural journals on this continent had not an aggregate circulation of ten thousand, while at the present hour the aggregate is more than a quarter of a million. And beside this, the time has come when our best family periodicals, from the penny daily to the ponderous quarterly, find it to their advantage to have an "Agricultural Department" in their columns. For the influence of the press, we refer to the improvement in every department of agriculture—the implements with which the work is done, the quality of productions, and the profits of the enterprise. They are all as visible as the morning star. The time has come, and may it never depart, when, other things being equal, he who does not read a good agricultural journal, cannot successfully compete with him who does.

PROTECTION OF PLANTS FROM INSECTS.—*Messrs. Editors*:—In the January number of the *Gardener's Monthly*, is an article from the pen of Dr. Uhler, with extracts from articles of M. Raspails, "on the protection of plants from insects, by the use of aloë." On reading said article, I thought I would give the aloës a trial on some plants that we happen to have, and amongst them some Anne Boleyn Pinks that were badly infested with the aphid or green fly. I dissolved half an ounce of aloës in two gallons of water, and sprinkled the plants lightly with the solution. The fly disliked the application most decidedly; numbers of them dropping off daily. The plants were allowed to stand three days, they were then syringed with water quite sharply, which carried them all off. The experiment was tried about the last of February; since then not a single aphid has made its appearance on the Pinks. Some Rose Geraniums that were experimented on at the same time, have had a few of the aphides on them for about a week, but they do not seem to increase as fast since the application as before. If I make another application, I shall put double the quantity of aloës to the same quantity of water. The red spider do not seem to mind it so much as the aphid. The scale bug evidently dislikes it, and, according to M. Raspails, it is quite disagreeable to the woolly-coated plant louse, (woolly aphid,) or, as gardeners call it, "mealy bug."

Who knows but we may make the plum disagreeable, even to the curculio, by the use of aloës.—C. S. M., in *Homestead*.

A CURE FOR CHILBLAINS.—A correspondent of Springport, Mich., inquires what will cure chilblains. Put 1 ounce of litharge in 1 pint of strong vinegar; shake well, and bathe the affected part.—*Rural New Yorker*.

Domestic Economy, Recipes, &c.

SILVER AND SILVER-PLATED ARTICLES.—The readiest mode of cleaning these articles, is to wipe them over with a weak solution of liquid ammonia. This readily removes the sulphide, and no rubbing, or scarcely any is required. The same agent will be found useful in cleaning gold chains and jewelry.

PLUM PUDDING.—One stale brick loaf—take off the brown crust—cut it in thin slices, and spread them with butter; pour over it one quart of boiled milk, and let it stand until morning; grate in one nutmeg, one teaspoonful of salt, eight eggs, well beaten, a pint bowl of stoned raisins, flour the raisins, and bake two hours. To be baked immediately after putting in the raisins and eggs.

LEMON PIES.—Beat with the yolk of four eggs, two tablespoonsful of melted butter, four of white sugar, the juice and grated rind of two lemons.—Put into a rich paste and bake. Then beat the whites to a froth, adding two tablespoonsful of grated sugar. Spread on the pies when done, put them in the oven and bake again for three minutes. The above is for two pies.

AN EXCELLENT LINIMENT.—Take the whites of two eggs, beaten to a froth, a wineglass of vinegar, a wineglass spirits of turpentine, and a wineglass of alcohol, beating it all the time. This liniment must be put together in the order mentioned above, or it will not be thoroughly incorporated. We find this very superior in all cases of sprains, bruises, &c., on man or beast.

POTATO APPLE DUMPLINGS.—Boil any quantity of white, mealy potatoes; pare them and mash them with a rolling pin; then dredge in flour enough to form a dough; roll it out to about the thickness of pie-crust, and make up the dumplings by putting an apple, pared, cored and quartered, to each. Boil them one hour.

SPRUCE BEER.—For three gallons, take one quart of molasses, twenty drops oil of spruce, fifteen drops oil of sassafras, fill the pail with hot water, mix them well together, let it stand till blood warm, then add a pint of yeast, let it remain ten or twelve hours, then bottle it. In three hours it will be fit for use.

INDIAN CAKES.—Six well beaten eggs, one quart of milk, warmed, a small lump of butter, a teaspoon of salt, one of soda, two tablespoonsful of sugar, one pint and one-half Indian meal. Bake in buttered tins about two inches thick. Better than sponge cake for tea.

VINEGAR PIE.—Take a gill of cider or vinegar, one quart of water, a teacup of molasses, or sugar enough to make it sweet, stir in half a dozen spoonfuls of flour, put it on the fire and let it boil. Bake with two crusts, or put the top crust on in strips if it is liked better.

NEWTON SHORT GINGERBREAD.—Eight cups flour, three cups sugar, one of ginger, one of butter, six eggs, one teaspoonful of soda.

BAKED APPLE PUDDING.—Boil one pound and a half of good apples with a gill of water, and half a pound of brown sugar, till reduced to a smooth pulp; stir in one gill of sweet cream, a tablespoonful of flour or fine bread crumbs; flavor with a little lemon juice, or grated lemon, and bake forty minutes.

CHEAP SPONGE CAKE.—Two eggs, one cup of flour, one cup of sugar, one spoonful of sweet milk, half a spoonful of soda, one teaspoonful of cream of tartar, and a little salt; grate in some rind of lemon, and add part of the juice, and a teaspoonful of butter.—Bake fifteen minutes.

TO RESTORE SOUR MILK OR CREAM.—Milk or cream, when it has turned sour, may be restored to its original sweetness by means of a small quantity of carbonate of magnesia. When the acidity is slight, half a teaspoonful of the powder to a pint of milk.

ORANGE TART.—Squeeze two oranges and boil the rind tender, add half a teacup of sugar, and the juice and pulp of the fruit, an ounce of butter, beat to a paste. Line a shallow dish with light puff crust, and lay the paste of orange in it.

LOAF OR TEA CAKE.—One cup of sour milk, one cup sugar, one teaspoonful rose-water, a little nutmeg, one tablespoonful of butter, one teaspoonful of soda, one and a half cups flour.

LEMON DIP.—Thin two tablespoonsful of flour with water; stir it into a pint of boiling water; let it boil once; take it up and stir in four tablespoonsfuls of sugar, a little butter and the juice of one lemon.

DEBORAH'S BATTER PUDDING.—Sixteen tablespoonsful of flour, one quart of milk, six eggs, salt; beat the eggs to a froth on a plate, and after it is mixed beat it fifteen minutes. Either boil or bake.

RICE PUDDING.—Quarter of a pound of rice, one quart of milk. Stir well while boiling. When nearly cold, add one-quarter pound of butter, same of sugar, six eggs, spice to taste. Bake one hour.

SALEM COOKIES.—Three and a half pounds of flour, one and a half of sugar, one of butter, one teaspoonful of caraway seeds, one and a half cups of milk, and a half teaspoonful of soda.

TEA CAKE.—Three cups of sugar, three eggs, one cup of butter, one cup of milk, a spoon of soda and four cups of flour, well beat up. If it is so stiff it will not stick easily, add a little more milk.

TO BROWN COFFEE.—Coffee should be browned gradually, and only to a *light* chesnut brown, so that when it is ground it will be lively and fly around the sides of the cup.

POTATO PUDDING.—Two pounds of potatoes, boiled and sifted, three-fourths of a pound of sugar, one-half pint of cream, seven eggs and nutmeg.

TO PRESERVE EGGS.—Set them away in a dry cellar, standing on their ends, and turn the other end up, once a week. They will keep fresh a year.

BOILED PUDDING.—One quart of milk, nine eggs, seven spoonfuls of flour, a little salt. Put in a bag and boil three-quarters of an hour.